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For those interested in Homemaking, Institution Management, and Educational Work in Home Economics

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CONTENTS

CHRISTMAS, 1918 . . . . . *Frontispiece*
AMERICAN TEXTILES. . . . . *M. D. C. Crawford* 533
PROBLEMS IN CAKE MAKING . . . . . *Elizabeth Miller and Bernice Allen* 542
WHAT TEMPERATURE IS REACHED INSIDE THE JAR DURING HOME CANNING? *Minna C. Denton* 548
WHAT ONE DEPARTMENT DID . . . . . *Zella E. Bigelow* 552
SHORT RATIONS IN FRANCE AND ITALY 554
THE COMMON TABLE 554
MISS MARTHA PATTERSON—IN MEMORIAM 555
FOR THE HOMEMAKER
NEW YORK COMMUNITY CENTERS . . . . . *Katherine Glover* 557
A RED CROSS CHRISTMAS 559
A COMPARISON OF THE USE OF BAKER'S AND HOMEMADE BREAD AMONG DIFFERENT NATIONALITIES IN THE UNITED STATES 561
CHILDREN'S HEALTH CODE 563
EDITORIAL 564
THE QUESTION BOX 565
BOOKS AND LITERATURE 567
PAMPHLETS RECEIVED 570
BIBLIOGRAPHY OF HOME ECONOMICS 571
NEWS FROM THE FIELD 573

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CHRISTMAS, 1918

If slighter fare our tables here afford,
  And fewer guests our homely joys enhance,
Where millions press we spread a grander board;
  This year we hold our Christmas feast in France.

We shall be host to Nations!—all who strive
  For deathless right, the greatest and the least
Who give their best that Freedom shall survive.
  This year we hold a nobler Christmas feast.

—ARTHUR GUITERMAN

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THE

Journal of Home Economics

VOL. X DECEMBER, 1918 No. 12

AMERICAN TEXTILES[1]

M. D. C. CRAWFORD

Editor, Women's Wear

As I understand the purpose of the American Home Economics Association, it aims to apply scientific methods to the selection and purchase of commodities for the home.

To a degree, it is the purpose of this Association to supply through scientific training that intimate knowledge of these important matters enjoyed by all women before the super-development of the modern factory system. In former times, this information was passed on from mother to daughter. And among so-called backward peoples, that is, nations who have not passed over personal detail to the machine, such knowledge is still enjoyed. The women of America are constantly referred to as the most extravagant on earth. They are supposed to have this quality inherent in their natures. But I regard this as merely one of those dangerous surface truths; it is always easier to make sensational charges than it is to support them by facts or to suggest practical remedies. Extravagance does unquestionably exist, but it is not wholly to be ascribed as wasteful living due to the great prosperity of America. For it is a very significant fact that in America our machine factory development has been more complete, more widespread, than in any other nation. This must share with our great wealth the blame for our careless habits of purchase. Wastefulness is generally based on lack of information.

[1] Presented at the Eleventh Annual Meeting of the American Home Economics Association, Chicago, June, 1918.

In those days when women not only cut and sewed their own garments, but prepared the fiber, spun the threads, and in many instances actually wove and dyed the fabrics, there was little to complain of in the line of extravagance.

Woman's supervision extended not only over the preparation of the daily meals, but also to the storing of such foodstuffs as could be preserved. Her knowledge of agriculture was quite remarkable and she understood the practice of elementary medicine to a very interesting degree. Her days were certainly full, and, though she bought her knowledge at perhaps too high a price, she must again acquire this knowledge, or at least that part of the knowledge which she needs in her present duties; and the only point really open for discussion is as to methods she should employ in so doing.

The romance of the modern machine, the imposing of factory organizations, and the many questions relating to economics and labor that have arisen because of the machine, have perhaps blinded us to the great debt we owe to the ages that preceded its advent into modern life. To the hand craft of past ages we are indebted for the basic principles of all mechanical processes.

The perfection to which they brought many things, especially in the textile fields, judged only on a purely mechanical basis, has never been equalled, and, of course, when we touch on the aesthetic side, the comparison between the best modern work and the best of the old work is not very flattering to our so-called modern genius. The romance of history lies not in spectacular conquests nor in the council rooms of statesmen, but is to be sought in that age-long contest that men and women, aided by a few tools which were themselves the product of their own intellect, fortuitous circumstance, and skill, waged with the forces of nature. To the man belongs the conquest of agriculture and transportation, but for the woman the loom and the potter's clay were the fields of brilliant and stubborn fight; and her genius, working through the long twilight of history, brought forth objects of utility and beauty that today our machines fashion into thousands of reproductions, and still in spite of many blunders catch a reflection of the charm imparted by the hands that have long since been dust.

I do not believe that art can ever be revived in America or in any other part of the world, unless again a large number of individuals practice the hand crafts. No age has produced a great art, or indeed an art worthy of the name, that has not based it on a study of craft

work. We are at the beginning, I am convinced, of a great revival in the evaluation of aesthetic standards, and I am confident that the next generation, perhaps the next decade, will see a revival in crafts that would have been undreamed of before this war aroused us to the true values in life.

I earnestly believe that hand craft work, therefore, should exist as an introduction to the real type of American art, and as a possible and practical solution of certain of our labor problems. I am thankful to state that the times that produced these marvels now belong to the age of romance, and what I have said in regard to the revival of interest in hand craft refers to the inclination of a group of individuals rather than to women as a class. Her place in the world has been too recently acknowledged, and is of far too great an importance in the political and economic structure of the world to relegate her again to a secondary intellectual sphere.

If the crafts are to be revived, they will be revived by both men and women, and from now on the distinction between the sexes in all of their intellectual, industrial, and political life will diminish. Perhaps the machine has gone too far; perhaps we have come to regard the machine as an end, not as a means to an end. We have learned to control and limit the economic features of the machine to a certain degree. We will solve this problem even more completely in the near future, but let us never forget that a modern factory production, whatever its faults may be (and admittedly they are great), has at least the exalted virtue of having released untold feminine energy for the great and vital problem of this dark hour.

The women of today are confronted with the problem of acquiring that knowledge of materials which they relinquished when they ceased to be home craftsmen. It is their problem, therefore, to address themselves to developing, through scientific methods, information of this character. And at least part of their problems can be solved by the insistence that manufacturers of such merchandise as they purchase be induced to sign their production.

In the purchase of foodstuffs that are prepared in factories and enter into interstate commerce, there is not only the government stamp of inspection, but (more important still) the personal guarantee of concerns who have learned the value of maintaining standards of purity, weight, and quality, and of establishing through publicity their reputation for these qualities. We find the same condition in regard to many

other essentials or luxuries. No one would buy an automobile, piano, phonograph, or camera that did not bear upon it a direct and indispensable guarantee, implied (and lived up to, in the main) by the personal signature of the maker as well as of the dealer.

There is a certain psychology in the mere act of signing a letter, a picture, or an article of commerce, which is quite apart from any financial liability implied. It arouses a strong persistent desire towards excellence. It is the combative, constructive, competitive insistence that lies at the root of all achievements. In spite of the apparent added cost of this procedure, in spite of certain tendencies toward coercive measures of sale, it remains an indisputable fact, that merchandise and men who are identified and guaranteed, are a little higher in value than the anonymous.

It may, perhaps, appear strange that the most intimate articles of commerce that enter into our lives (that is, our costumes and the fabrics that compose them) have in a large measure escaped this identification of the use of a trademark or firm name; yet this simple and apparently natural expedient has not been resorted to, partly because we have retained a certain superstitious reverence for the word "imported"—an attitude confined largely to the professional elements in the retail dry goods business and shared in only a small degree by the women of America.

We have retained in the twentieth century, in spite of the most gigantic development, a strong reminiscence of the old "Vendue." Many of our retail advertisements read like pages from the newspapers published before the Revolution. You may recall the quaint old form: "By the Grace of God, on the 13th day of —, at Bowling Green, the barkentine Slapping Sally, outbound from foreign ports, landed the following packages of merchandise." Then follows an enticing list of feminine and masculine finery, interspersed with interesting mention of certain wines, high spirits, etc., and the information that these goods would be offered for sale at a "Vendue" on some near date. But those times have passed away, and it may be well to point out the anachronism of the use of the word "imported" as distinguishing quality rather than a geographical distinction. The actual facts of the case are that in the average high class department stores, at least 95 per cent of the stock is domestic; but in their advertising campaigns, stress is laid on the imported in practically reverse ratio. It was (and is, where it still exists today) rather a custom than a conscious intent to deceive. There

is no question that the retailers of America are men of probity and unquestioned patriotism. The word has become a peg to hang their advertising on. They are naturally concerned in the sale of their wares and have cherished the superstitition that the women of America want imported rather than domestic material, regardless of quality. And if the actual imported material is not available at the prices they can afford to pay, a skillfully camouflaged domestic article is next in demand.

They retain something of the epigram of the famous showman who said. "The public likes to be fooled." I do not believe this. I rather incline to the idea that the misuse of the word is one of the relics of olden times, when it did express quality distinctions that were very important; and where it still exists it but proves the force of years of publicity; for women have unconsciously, perhaps, come to associate this name with quality, and by contrast the term "domestic" has come to mean something of indifferent value.

There is no question that even today, in spite of our enormous advances, Europe makes certain things better than we do. Certainly as regards the artistic quality of merchandise, the average European manufacturer has been more thoughtful and more appreciative of this value. But the productions of European mills that have won for Europe her great reputation in the world (and this especially applies to the French) have always been known, not only by their national mark or insignia, but by individual names as well. We do not speak so much of a French gown as we do of a Callot, Lanvin, Poiret, or Paquin, and when we speak of French fabrics we think of Coudurier, Bianchini, or Rodier, rather than of some indefinite mill in France.

When this war is over, our Allies will not only need our merchandise to replenish their stocks, but will also need our markets to rehabilitate their industries. Where they excel in domestic production, they are in all fairness entitled to a preference. On the other hand, American manufacturers have, by foresight, intelligence, and courage, maintained and advanced recognized standards. They are also deserving of credit and patronage—the rewards of these qualities. We should not, therefore, permit or countenance the misuse of the term "imported," but should so arrange that merit will be the sole determining factor in each purchase. Let us always remember that the retailer is the only gainer by the misuse of the terms "domestic" and "imported."

The war has done at least one great service to America. It has demonstrated to the public the ability of our industries to care for our

wants, and this proof has come under conditions that at the best have been trying and at the worst have been extremely difficult. In order that certain points may be developed that will be of interest to you as indicating possible lines of research, it may, perhaps, be well to review certain of the difficulties that still exist, what progress has been made in solving them, which ones have been overcome.

First in importance comes the question of wool. You all know that the military needs have placed great burdens on the available wool supply, and, of course, the needs of the army come first, not only in the government's program, but in that of the millman and the public as well. There is no pose or affectation when a manufacturer or a woman consumer says that he or she would rather not use the fabric that the soldier needs. However, there have been certain garments and materials made up that have passed beyond that stage where they could be diverted into war use, and these form what I may style "the first line of defense" against scarcity. The increase in our shipping will soon release shipping space that will enable a larger supply of wool to be brought to America; and I say emphatically that scarcity in the sense of a definite want, the possibility of men or women in civil life being improperly clothed against the inclemency of the weather, does not and cannot exist in America. But scarcity as compared with the former abundance does exist and will exist, and discrimination in the use of woolens, and economy in their purchase, are matters of a definite patriotic value. The question of substitute fabrics is one of great interest and one that has received too little attention either from the public or from the trained mill specialist.

Custom has settled on wool as the ideal fiber for outer garments. This custom has been hallowed by years of observance; and it may be true that wool is the best fiber that can be produced in large quantities for this purpose, although I am not sure that a strong case from the history of fabrics and garments could not be made out for other fibers, and I am certain that even if it is the best for the purpose it is not the only one. Already our great silk mills are experimenting and have perfected a part of their experiments with certain silk substitutes for woolen fabric. These are not necessarily exorbitant in price. It is, as with woolen fabrics, a question of degree. Certain mills that made fabrics for medium-priced garments still continue to make their wool substitutes for the same type of garment, and the mills that serve the more expensive garments naturally continue to make more expensive

substitutes. This is quite within the realm of good sense and in no way draws a comparison between the two sources of supply.

Every woman, either of moderate or of great wealth, should approach the subject of garments in the spirit of practical economy. There should be no extravagance. However, when the problem has been settled as to the purchase of some garment, a woman should follow the natural tendency suggested by her financial circumstances and if she can afford to buy an expensive costume she should do this in order not to place an undue burden on such possible substitutes as are within the means of the women who have less money. In other words, if a woman who can afford to spend $10 a yard for a beautiful silk duvetyn or velours, buys instead a fabric costing $2 or $3, she is thereby diminishing the available supply of material for the woman who can only afford those prices. The scarcity is not in money at this time; the scarcity is in materials.

I suggested to a manufacturers' association that scientific conservation would be materially aided by a careful study of the history of costume; that certain types of great charm and utility, employing a limited yardage, might be discovered among certain of the skin cutting tribes of Siberia and the natives of the Philippine Islands. The garments of northern China, a country in which the climatic conditions are somewhat more rigorous than in the United States, are made from silk with a cotton-padded background. These garments are extremely beautiful and evidently give as great a protection against the weather as woolen garments. It is not wool itself that gives warmth. It is the scale-like quality of the woolen fiber and its felting qualities that make it a container of the body's natural warmth.

The men who went on one of the daring expeditions into the Southern Arctic were clothed in garments made from combinations of vegetable fibers, and contained no wool. Other instances of a similar nature in which costumes of warmth and charm were developed without the use of wool could be multiplied indefinitely. The fact has never been established on a scientific basis as to which fiber is the most adaptable for outer wear, and we should also remember that the custom that dictates to us the use of wool for this purpose also formerly dictated its use in undergarments as well.

An instance of how a custom may become changed through circumstance and still effect no hardship is that furnished by the lack of flax incident upon this war. Before then we imagined that for certain pur-

poses flax was the only fiber possible. Take, for example, table-cloths—only the cheapest substitutes were made in cotton and then cotton yarn of a very doubtful quality was used. When, however, there were no linens available, the mills making tablecloths bestirred themselves, purchased better grades of cotton yarn, and made tablecloths that in most ways answer all the purposes of the linen ones, and we have scarcely felt the want of linen.

The American dye industry is an excellent example of what American ingenuity and courage can accomplish. Through achievements that must be freely admitted and through carefully prepared propaganda, the Germans had created the impression that the chemical dye industry could not develop outside of their sphere of interest. But in this as in many other of their theories, practice proved them wofully in error. It was, however, a curious instance of our public and professional lack of scientific information to observe the different reactions from the situation. At first all was confusion and dismay. The market for the remaining German dyes was simply insane and indeed the prices paid for the first American substitutes, often of very inferior quality, were ridiculous. This was bad, but the sequel was even worse. We passed from depletion and demoralization to extravagance. The industry and the press, and through them the public, began to imagine that in a moment the entire problem of dyes had been solved. This over-confidence did more actual harm than the former lack of belief.

Since the beginning great advances have been made in the production of dyes in America and we may look confidently to the future for even higher attainments. However, there are certain colors that require toluol as a base, such as bright acid blue which goes to form certain shades of taupe, rodent, and beaver. This base has not yet been developed for sale in large quantities or at prices that put it within the reach of the ordinary purchaser.

Chrome colors, which are guaranteed to a high degree of fastness, do not have the brightness and bloom that we have learned to associate with aniline colors. However, for outer garments, chrome colors that are reasonably fast to light, would be more desirable than aniline colors (whatever their artistic qualities) which would not stand tests of service. I think that the matter should be discussed very earnestly with the retailer at each purchase, and that the mere assertion by the retailer that he cannot guarantee colors because of the condition of American dyes, should be gone into sufficiently to find out what colors he can

guarantee as being fully up to pre-war conditions. There are many such colors, and if the retailer himself does not know them, he can easily ascertain them by asking his manufacturer or by referring to any of the great dye plants. An attitude of distrust of the entire industry and lack of confidence in the future is a great injustice to an industry that has done splendid service and that will do splendid service to all American industries; and failure to study actual conditions—to learn colors that are successful and those that are still unreliable—that are still to be perfected—is just as great an injustice.

Whatever substitutes conditions may impel us to use, there is no excuse for neglect of artistic qualities. Beauty and extravagance, charm and costliness, are not synonymous terms. Simplicity of line and design is the very essence of the highest in decorative values. It is as a general rule a less labored, less intricate process to make a garment or house or picture beautiful than to make it overdecorated. In the midst of a world of war, it is the duty of women within these limitations to look their best. Ostentation or frivolousness in costume or fabric is not in good taste at this time, but neither is undue somberness.

There is a very intimate relationship between bravery and sprightliness in chromatic schemes. The soldiers themselves will be the first to make this demand. The exigencies of modern warfare require that men be clothed all alike and in colors that do not attract. Their colors are protective. But the longing for color is so insistent, is so deeply embodied in every human being, that soldiers returning, either from our great cantonments or from the actual fields of battle, will want to see some contrast to the drabness that has surrounded them while in active service.

This hunger for color has been one of the most interesting psychological facts that have been noticed in London and Paris, and in those war-hardened capitals the lesson has been learned, and the women (within the limits of good taste) have dressed smartly and beautifully. The early tendency towards aping the soldier's uniform in civil costumes in this country has, I am happy to say, largely disappeared. Women who are doing actual service that requires special uniform are, of course, equally with the men, entitled to wear it. But as a fashion or vogue of the hour, the good sense and taste of the American woman and her real patriotism have come to the fore and prevented this travesty on our soldiers' costume.

PROBLEMS IN CAKE MAKING

ELIZABETH W. MILLER AND BERNICE ALLEN

Formerly of the University of Chicago

Among the most difficult problems in the cooking courses for inexperienced students are those that come in the baking lessons. This is because there are so many factors which may influence the quality of the finished product. The lack of uniformity in results obtained even when the ingredients are weighed and the baking temperature carefully controlled, is evidence that the manipulation of the batter or dough, as well as variations in ingredients, is in many cases of great importance in determining the texture, size, and shape of the product.

This is especially true of cakes. Because the number of ingredients makes possible considerable variation in manipulation, and because the fat, sugar, and eggs are usually contained in such proportions that they must affect other qualities than the flavor, cakes offer a wide variety of problems for experimental work. For some time classes in this department have been doing such experimental work to determine the effect of varying the method of mixing ingredients, the amount of beating given the batter, and the proportions of ingredients. The results of some of the work are reported in this paper.

The following recipe for a standard cake was used:

	Weight	*Measure*
Milk	244 grams (237 cc.)	1 cup
Butter	112 grams	½ cup
Sugar	300 grams	1½ cups
Egg	96 grams	2 eggs
Pastry flour	300 grams	3 cups
Phosphate baking powder	18 grams	4 teaspoons
Flavoring		1 teaspoon
Salt		½ teaspoon

One-sixth of the recipe was made up for each experiment. The ingredients were weighed, with the exception of salt and flavoring. The batter was baked in muffin tins 2 inches in diameter at the base and 2 inches tall, at a temperature of 190°C.

I. Effect of varying the method of combining ingredients. The conventional method generally employed for combining the ingredients of a plain cake is to cream the fat and sugar, stir in the beaten egg, and finally to add, in portions and alternately, the liquid, and the flour

sifted with the baking powder. Directions frequently put emphasis upon the necessity of creaming the butter and sugar thoroughly and of beating the batter well before baking. This method is sometimes modified by separating the whites and yolks of the eggs and folding the stiffly beaten whites into the batter the last thing.

In contrast with this, the method employed when a commercial cake-mixer is used, of putting all the ingredients together—the softened fat, sugar, egg, liquid, and flour sifted with the leavening agent—and stirring sufficiently to mix thoroughly is simple and time-saving as well.

To determine whether or not the elaborate household process produces a result commensurate with the time and effort required, cakes were made combining the ingredients in four ways: the conventional method, the conventional method separating the whites and yolks of the eggs, the conventional method softening the fat by warming instead of creaming it with the sugar, and the "cake-mixer" method. Since it is not practicable to use a commercial cake-mixer with a small quantity of batter, the ingredients were all put into a bowl at once and stirred with a spoon.

These methods all gave products that were similar in appearance and texture. The standard for a cake made after this recipe is one which has a slightly rounded top, a medium fine, even grain, and a crumb which is elastic to the touch and soft and delicate in the mouth. This sort of product seemed to be more dependent upon the skill of the person making the cake than upon the method used. One who had had considerable practice in cake-making obtained good results whichever method was employed. However, with inexperienced students, the "cake-mixer" method, which requires little manipulation, usually gave more uniform results than any other.

Separating the whites and yolks of the eggs is no advantage in this recipe. It is important when more eggs and less baking powder are used so that the leavening of the cake is dependent upon the air folded in with the stiffly beaten whites. Softening the fat by warming instead of creaming gives a different appearance to the batter, but has no effect on the finished product. This is in accordance with the conclusions reached by Miss Wellman[1] and Miss Milam.[2]

II. The effect of beating the batter. It was frequently observed in these experiments that two persons working side by side, weighing the

[1] Wellman, Mabel: *Journal of Home Economics*, 1 (1909), no. 5, p. 418.
[2] Milam, Ava B.: *Journal of Home Economics*, 4 (1912), no. 3, p. 262.

ingredients, using the same method of mixing and baking their cakes in the same oven, obtained different results. In one case the cake had a coarse, even texture and was flat on top; in the other the texture was close, broken sometimes by long tunnels, and the top rose to a peak. The conclusion was that the amount of mixing and beating given the batter must have varied in the two cases.

A full recipe of the batter was made up by the "cake-mixer" method and stirred just sufficiently to mix the ingredients. A weighed portion was baked immediately, a second equal portion was beaten one minute, a third two minutes, a fourth five minutes, and a fifth ten minutes before baking. The results are shown in Plate I.

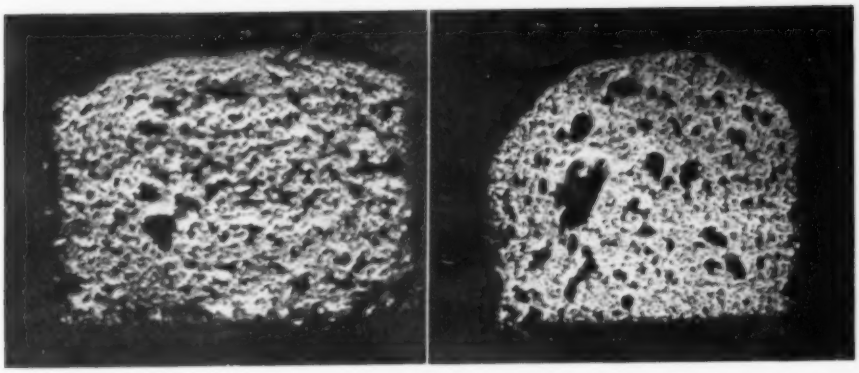
The first cake has a coarse, even texture and a flat top. Such a cake crumbles easily, and has a soft crust that is somewhat rough. With increased beating the texture becomes closer and there is a tendency for tunnels to form. In the cakes which were beaten five and ten minutes these tunnels are very marked, and in the last cake the texture between the tunnels is solid and compact. With increased beating, also, the cake becomes smaller, the crust is smoother and the top forms a pronounced peak.

To determine whether or not these changes were due to the fact that the carbon dioxide had been lost during the long beating, two other mixtures were made up, one containing baking powder and the other not. The batter having the leavening was baked immediately without any beating. The other was beaten ten minutes, after which the baking powder was sprinkled over the top and stirred in. The results are shown in Plate IV.

Beating the batter ten minutes before adding the baking powder resulted in a somewhat larger cake similar in appearance to the first one, but with a slightly finer texture. This difference in texture was especially evident when the cake was eaten. There was not, however, sufficient improvement to pay for the effort expended when the beating must be done by hand. In adding the baking powder last, care must be taken to mix it in thoroughly. Otherwise, the texture will be uneven.

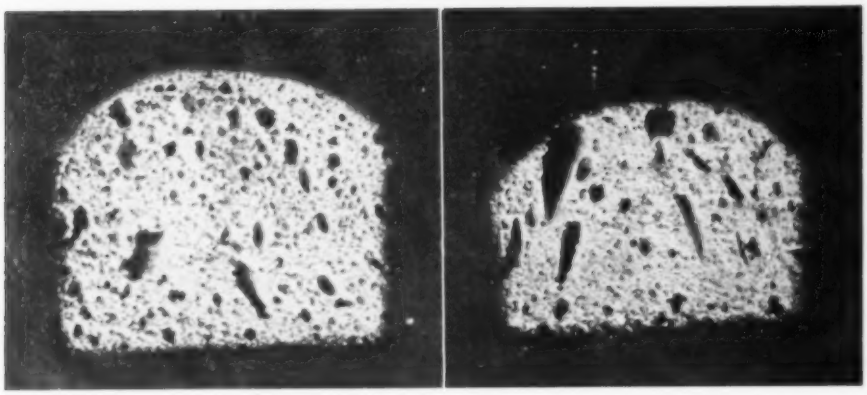
The conclusion that it was loss of carbon dioxide which caused the peculiar texture of the beaten cakes was strengthened by the observation that any considerable reduction in the amount of baking powder produced similar results even in the unbeaten cakes. It has not been found advisable to use less baking powder than is recommended on the

PLATE I



No. 1. Batter unbeaten.

No. 2. Batter beaten one minute.

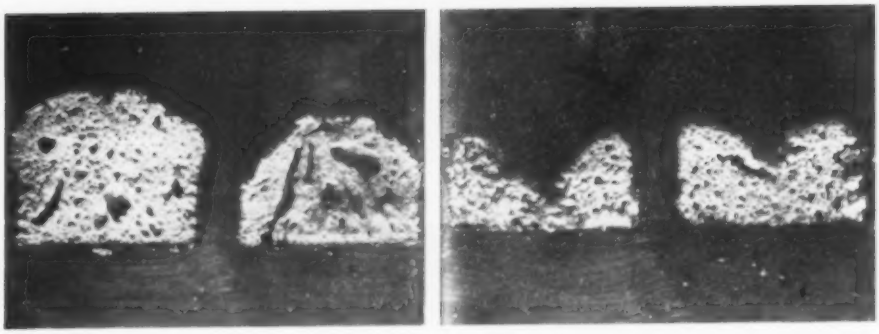


No. 3. Batter beaten two minutes.

No. 4. Batter beaten five minutes.

No. 5. Batter beaten ten minutes.

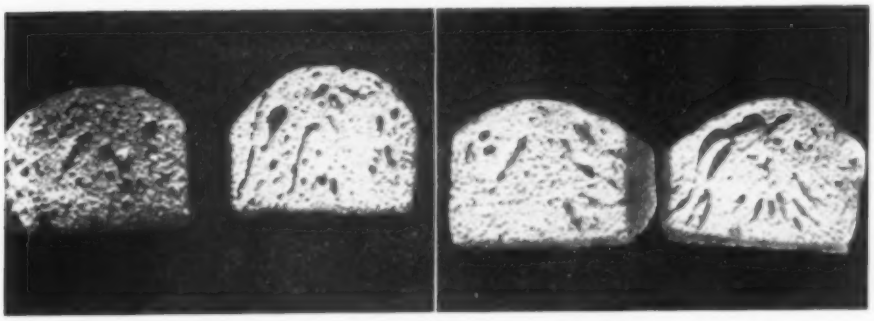
PLATE II



No. 1. Cake with one-half the amount of sugar—unbeaten and beaten two minutes.

No. 2. Cake with double the amount of sugar—unbeaten and beaten two minutes.

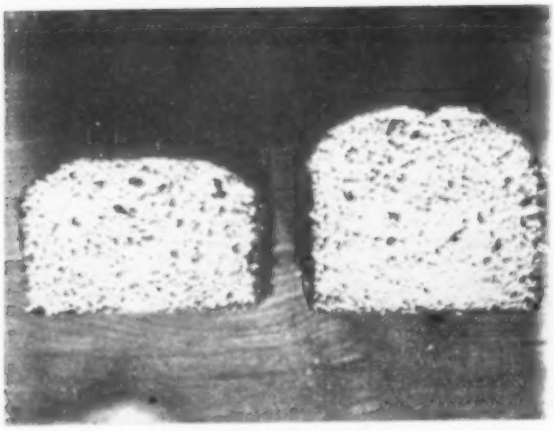
PLATE III



No. 1. Cake with double the amount of egg—unbeaten and beaten two minutes.

No. 2. Cake with three times the amount of egg—unbeaten and beaten two minutes.

PLATE IV



No. 1. Batter unbeaten.
No. 2. Batter beaten ten minutes before baking powder was added.

manufacturer's label. This will vary somewhat with the kind of baking powder, since the weights of one teaspoon of the different powders are not the same.

This series of experiments disproves the old theory which is still sometimes taught, that long and vigorous beating is necessary to obtain a good cake. We have frequently heard housewives say that whenever they took particular pains to make a fine cake, it was sure to be a failure. On the other hand, one that had been put together hurriedly was usually a success. There is an optimum amount of beating which gives the most desirable product, a cake with fine texture but free from tunnels. This seems to be from one to two minutes, depending upon the vigor with which the beating is done.

III. The effect of varying the proportions of ingredients. Sugar: The proportion of sugar to the other ingredients in the mixture is important (see Plate II). The unbeaten cake made with one-half the amount of sugar (illustration no. 1) is light and well-risen, but the texture is rather coarse and bready, and the crust looks like that on a muffin. The cakes made with double the amount of sugar (illustration no. 2) have fallen badly, the crust is sticky, and the walls surrounding the pores are thick instead of thin and transparent as in a cake of good texture. Similar results were obtained in this laboratory with doughnuts.[3]

The close relationship that exists between the proportion of sugar and the amount of beating that is desirable is also shown in Plate II. The cake made with half the usual amount of sugar and beaten two minutes is small, and the texture is compact, with large holes shot through it. Even this small amount of beating always has a detrimental effect on cakes which contain too little sugar. On the other hand, cakes having a large proportion of sugar are improved by beating.

This and other experiments varying the proportion of sugar in this recipe have led to the conclusion that increasing the sugar up to a certain point improves the texture. It is not possible, however, to increase the quantity much above that given without causing the cake to fall. The amount of beating necessary to produce the best texture is also partly dependent upon the proportion of sugar. The more sugar the cake contains the more beating is desirable.

Egg: A close relationship also seems to exist between the number of eggs and the effect of beating. With more egg, the cake is toughened

[3] McKee, Mary C.: *Journal of Home Economics*, 10 (1918), no. 1, p. 18.

and there is an increasing tendency to rise to a peak and to form tunnels when the cake is beaten. The tunnels in the cake are usually narrow and converge at the top of the peak. These characteristics are shown in Plate III.

Cakes were also made in which the egg was omitted entirely. These were similar to cakes containing a slight excess of sugar. Those which were not beaten had a somewhat sticky crust, were coarse-grained, sunken a little in the middle. Beating the batter gave a better texture, but this cake containing no egg is improved by reducing the sugar in the standard recipe to one cup.

The results of this experiment lead to the conclusion that these two ingredients, sugar and egg, must be used in such proportions that the effect of one will balance that of the other. While egg added to the batter toughens the cake and increases the tendency for tunnels to form, sugar, if not used in excess, gives a fine, soft texture and prevents the formation of tunnels. At a time when eggs are expensive cakes made with the smaller amount of sugar and no egg are entirely satisfactory.

Fat: Fat is used in cakes to give tenderness and richness of flavor. Reducing the fat causes the cake to be tough and, as in the case of increased egg, there is a tendency for tunnels to form in the beaten cake, although not to so marked a degree. With increasing fat the cake becomes very tender, so that it falls to pieces easily, and the edges curl over in baking. When cut it looks compact and moist. Fat acts as a liquid in the batter and it is therefore necessary when increasing the amount of fat in the recipe to decrease the liquid proportionately. The egg also must be increased, since otherwise the cake will not hold its shape.

The consistency of the fat used in cakes has a marked effect upon the texture. Very hard fats produce a fine, close grain similar to a pound cake. The cut surface is firm and somewhat resistant to pressure. This firmness is due to the hardening of the fat. When eaten the cakes are tender and crumble easily.

In contrast to these, cakes made with the oils are light and spongy, and have a loose, coarse texture. They are soft instead of crumbly in the mouth.

Fats of medium consistency, such as butter and oleomargerine, produce a texture intermediate between that obtained when the hard fats and the oils are used. A texture more nearly approaching that of

butter cakes results in the case of cakes made with oils if the liquid is reduced by one-sixth to one-fourth. With hard fats reducing the flour by one-sixth improves the cake.

SUMMARY

In cake making, manipulation is one of the chief factors in determining the quality of the product. In an ordinary cake the method of combining ingredients is not in itself important except as it controls the amount of mixing and beating. There is an optimum amount of beating which is desirable, from one to two minutes, depending upon the energy with which the beating is done. Less than that gives a coarse crumbly texture; more gives a compact texture with tunnels.

The relation which the various ingredients bear to each other is also important. Increasing the sugar up to a certain point makes the texture finer; increasing beyond that makes the texture coarse and causes the cake to fall. Increasing egg alone toughens the cake and produces tunnels with beating. Increasing fat alone makes the cake rich in flavor and tender. If used in excess, the cake will not hold its shape. Neither fat, sugar, nor egg can satisfactorily be increased alone beyond a certain point. All these must be increased together in such proportions that the effect of the fat and sugar on the one hand will offset that of the egg.

Further experimental work on cakes is being done in this laboratory.

Now that we are all guests at a common table, a single caterer—the Inter-Allied Food Council—by common consent, adjusts the fare.

WHAT TEMPERATURE IS REACHED INSIDE THE JAR DURING HOME CANNING?

MINNA C. DENTON

Professor of Home Economics, Lewis Institute. (Ellen H. Richards Fellow in Household Administration, University of Chicago, at the time of this study.)

The charge that spores of Bacillus botulinus may often survive the process of home canning has in recent years lent a new earnestness to our search for the answer to the above question. Van Ermenghem, discoverer of one of the best-known strains of this bacillus, found that its spores were unusually sensitive to heat. Indeed, they were killed by heating for 30 minutes at 80°C. (176°F.) or for 15 minutes at 85°C. (185°F.). Directions for processing vegetables often call for two to three hours' heating of the jar in a bath of boiling water. But the important question is: How long does it take the center of the mass of cold-dipped vegetables inside the jar, to reach the boiling temperature of the outside bath,—or rather, to reach a temperature somewhere between 98°C. and 100°C.?

The following trials, made with a mercury thermometer[1] inserted through the cover of a mason (quart) jar, so that the bulb of the thermometer was placed in the center of the vegetable mass, illustrate some of the possibilities.

Carrots were pared and sliced, were not blanched, but were cold-dipped for one minute under the running cold water faucet. 435 grams were at once packed into a hot glass (quart) jar,[2] and 465 cc. of boiling water, were added. The temperature as indicated by the thermometer fell immediately to 75°C. Delay of 1½ minutes ensued, so that the internal temperature in the (partially) sealed jar was 60°C. at the moment when it went into the boiling water bath. This jar was the center one of five. The outer vessel was an enamelled iron jar 12 inches in diameter and 11 inches deep; it held, besides the jars, 17 quarts of

[1] It is, of course, true that such a thermometer indicates only the temperature of the liquid surrounding the pieces of vegetable, and not that of the interior of portions of the vegetable tissue. But it must be the case that in most instances, when trimming has been carefully done so as to reject all unsound tissues, the source of contamination is on the surface of the pieces of vegetable and not in the interior of the tissue.

[2] Only about 435 grams of carrots could be packed into the jar when the carrots were not blanched, whereas with blanching and close packing, the same jar would hold 700 grams of the same carrots.

boiling water whose level reached just above the rubber rings of the jars at its lowest (in the moment before replenishing) or well over the glass tops otherwise. This boiling water was of course renewed only with boiling water.

In 5 minutes' time,[3] the temperature in the center of the jar was 80°C.; in 11 minutes' time from the start, it was 90°C.; in 21 minutes' time, 95°C.; in 45 minutes' time it was 98°C., where it remained during the rest of the time of processing. Thus the internal temperature was at its maximum during 75 minutes of the two hours' processing time.

In a second experiment, 700 grams of sliced carrots were blanched five minutes in boiling water, cold-dipped as above, packed into the hot jar and covered with 200 cc. of boiling water. The temperature of the boiling water at once fell to 40°C. In 30 minutes after placing the jar in the boiling water bath, the temperature in the center was 82°C.; in 37 minutes it was 87°; in 50 minutes, 92°; in 80 minutes, 98°C. Thus we see, that increasing the proportion of vegetable mass (which heats through with comparative slowness, partly due to lack of convection currents in cellular tissues) and decreasing the added water in the jar, to to the extent mentioned above, has almost multiplied by *two*, the time required for heat penetration to the center of the jar, in the above instance.

In cooling, these jars when set in a warm room protected from a draft, required at least 25 minutes (and sometimes more) before the internal temperature fell to 85°C. At the end of two hours, the internal temperature was 55°C.

Thus we see that in the second instance mentioned above, where the conditions were not as favorable for a speedy sterilization as in the first instance, there was still an interval of 115 minutes when the internal temperature remained above 80°C. 90 minutes of this sterilizing period include the last part of the processing period, 25 minutes of the 115 include the first part of the cooling period.

However, it will not be proper to argue from a few experiments, such as those from which these two have been selected, that the Bacillus botulinus would necessarily be unable to survive a three-hour sterilization period. Two important modifying factors must be kept in mind. First, a large number of such measurements of internal temperatures is

[3] The time was reckoned from the moment of immersing the jar in the water bath. In the first experiment 1½ minutes was required to bring the bath again to the boiling point; in the second experiment, 4 minutes.

needed; these should be performed with many different mixtures of water and vegetable tissues of different sorts. Second, there is needed a large number of experiments showing the death point of spores of different strains of Bacillus botulinus under different experimental conditions. Apparently this is a highly variable organism in some of its properties, if we may judge from the existing literature; and it may easily be the case, that not all strains are as readily killed as was that of Van Ermenghem's "Bacillus botulinus of Ellezelles."

Furthermore, the nature of the medium in which the heating takes place may profoundly modify its destructive effect upon bacteria. E.g., bacteria are more easily killed by heat when suspended in water than in milk; and more easily killed in liquid milk than in the scum which forms on the surface of milk heated in an open vessel. Again, recent experimental work shows that the presence of starch protects yeast cells, to some degree, from heat destruction. Still another instance: unpublished experiments show that Bacillus botulinus, when heated in a liquefied gelatin medium, has a comparatively great heat resistance. One fact, however, does stand out. Spores which are more hardy than those of Bacillus botulinus, or of any disease-producing bacteria of which we know, may and undoubtedly do upon some occasions escape heat destruction in a processing period of one, two, or three hours; especially when the conditions are such that 80 minutes of that time must be used up in bringing the contents of the jar to the boiling temperature. Such hardy organisms as these, may or may not grow under the conditions which obtain in the jar after cooling, and the unsterile food mass may or may not "spoil."

From the above experiments, and from other considerations, it is evident that two women using the same material and following with equal care and intelligence the same directions, may often obtain very different degrees of sterilization. The length of time required for the contents of a jar to attain a temperature very near the boiling point may vary from 30 minutes (initial temperature in the jar, 70°C.) to 100 minutes, according to the writer's very limited observations; and may easily be made to vary more widely than that without departing from the directions usually given for canning. With any given period of processing, the longer the time required to heat through to the center of the mass, the shorter the time remaining for the accomplishment of sterilization. Other things being equal, this preliminary heating period

will be shortened and consequently the sterilization will be made more nearly complete, by observing the following conditions:

1. When the vessel used for holding the bath of boiling water is of such size and shape that a considerable mass of water surrounds the jars, the sterilization is much more rapid than if a small bath with a correspondingly decreased amount of boiling water be used. Thus the entrance of the cooler jars does not so greatly check the boiling of the bath; and the rate of heat penetration is more rapid. In using a given outfit, an excess of boiling water may be secured either by packing fewer jars into the same space, or by raising the rack on which the jars stand (and also the water level), so that there is a larger body of water beneath. It is usually less convenient to increase considerably the mass of water above the jars, for they are not so easily handled at a depth of more than two or three inches.

2. As the directions usually indicate, care should be taken to keep the surface of the boiling water well above the covers of the jars being sterilized. If this level sinks to the rubber rings, a difference of 1° or 2°C. may sometimes be observed within the jars.

3. The longer the cold dip, the colder the water used for dipping, and the more thoroughly the plant tissue is chilled, the more greatly the process of sterilization is hindered or delayed.

4. Pint jars will, of course, heat through somewhat more rapidly than do quart jars. Under some circumstances, the jars nearest the outside of the bath may be much slower in reaching a sterilizing temperature than are the jars nearer the center.

5. The more tightly the cold-dipped vegetables are packed the smaller is the amount of boiling water which the jar holds, and the greater is the delay in reaching a sterilizing temperature. However, since other considerations obviously demand a close pack, it is doubtless wiser in most cases to reduce the time and raise the temperature of the "cold" dip, rather than to increase the amount of water used in filling the jars. To pack loosely means to increase the amount of watery juice remaining in the jar at the end of the process, which in turn increases the extraction of plant juices and nutriment. This large amount of watery juice, being very likely lacking in flavor, is perhaps in greater danger of being thrown away or wasted than would be the case with a smaller amount of more concentrated juice.

In case of those vegetables especially hard to can successfully, however, it will be found a distinct advantage to increase the proportion of boiling water and reduce the amount of vegetable put into each jar; for this will shorten the preliminary period of heating and thus increase the period of sterilization, without increase of the time of processing. It then becomes the duty of the dietitian and housewife to devise some means of concentrating or otherwise utilizing the juice, which under these circumstances may contain two-thirds (or even a larger proportion) of the vegetable nutrients. For, strange to say, many a woman who would not think of throwing away a meat broth will, nevertheless, discard the vegetable broth which in most instances is a much more highly nutritious product.

WHAT ONE DEPARTMENT DID

ZELLA E. BIGELOW

During the recent outbreak of Spanish influenza at the Michigan Agricultural College, the Home Economics Division like those of many other colleges and schools had the opportunity of using its equipment, faculty, and students in a practical and helpful way.

There were 1300 men on the Campus in the Students' Army Training Corps and the Vocational Detachment. Even though the disease was very well controlled in the camp, the shortage of nurses and trained dietitians was early felt and the practicability of enlisting the woman power of the college was seen by the military authorities.

At 10 c'clock on Saturday morning the request came to the Domestic Science Department to take charge of the preparation and serving of meals to 120 patients in the military hospitals. At 3 o'clock the first meal was served.

The diets were made out by the army nurse in charge and sent to the Domestic Science Department, which did all the buying. The bills were charged to the barracks kitchens.

The work was done by members of the department, assisted by one cook and the girls in the senior class. The research laboratory in the Woman's Building was used for the preparation of food. The senior

cookery classes assisted in its preparation. Here lemonade, choclolate, malted milk, creamed chicken, broths, sandwiches, custards, baked apples, and other articles of the diet were prepared in large quantities.

A dispensing kitchen was improvised in the basement of the Horticultural Building which is very near the barracks that were used as hospitals. An ice box and three hot plates were installed; trays and dishes were obtained from men's society houses and fraternal orders. The drawers of the horticulture laboratory were stocked with dishes, and labeled like a well ordered pantry. In this laboratory two sergeants and six privates were detailed for duty. They washed all dishes used in serving the sick, since none of these were taken at any time to the preparation kitchen.

The procedure of serving a meal was worked out in such a way that the food reached the patients while hot and appetizing. The diet for the day was prepared in the laboratory in the Woman's Building. At meal hours, 7 a.m., 12 o'clock, and 5 p.m., orderlies reported there and carried the food to the dispensing laboratory where written orders from each ward had been brought during the hours preceding the meal; such as, for example, "Barracks B—4 light diets, 7 liquid diets." The trays were ready, set with dishes and silver and marked with their slips. Hospital orderlies then began to arrive. They stood in line, stating the names of their wards in turn. The senior girls filled the trays, while one girl checked each tray by its slip to see that it was complete.

The dispensing laboratory was also prepared to serve chocolate, egg nog, grape juice, ice cream, broth, and albumin drinks at any time. These were served to the patients on liquid diets at 10 o'clock and 3 o'clock, and at 8 o'clock in the evening, in addition to the regular meal hours.

The Domestic Art Department made pajamas, surgeons' coats, face masks, arm bands, and pneumonia jackets. Some of the sewing was done during class hours, but much of it in the evening. The girls signed up for work at all hours of the day and for an hour in the evening. Every effort was made to meet the requests made each day from the hospital for the number of articles required the next day.

The work done in this emergency was not only of great service, but it was an invaluable experience for the girls who shared in it.

SHORT RATIONS IN FRANCE AND ITALY

The signing of the Armistice lifted the cloud of fifty years, and France broke into joy and color and dancing. She walked at last free in the sunshine and every good seemed possible at once. Peace, however, added nothing to food supplies, and hardship must go on until next harvest. Victor Boret, the French Food Controller, announced shortly after the Armistice was signed that it would be impossible to increase the war-time rations to civilians, but promised lower prices.

To Italy, peace brought only increased food difficulties as the newly acquired territory and prisoners added about 5,000,000 people who must be fed. With admirable foresight the Government set aside a great store of food for the immediate relief of the redeemed provinces and returning prisoners, and prepared to face the situation.

Rationing is vigorously enforced by the card system and war-time allotments of food have been severely cut. The new ration provides a monthly allowance of 17 pounds of bread and 13 pounds of other food for each person. This is only a pound of food a day and seems very little at any time but especially meager in this hour of victory.

THE COMMON TABLE

Food, to the average American, used to be a question mainly of purchasing from the nearest grocer and butcher what appetite and income dictated. Where the food came from, how much there was of it in the world, how universal its consumption, these questions were none of his concern. He could get what he wanted if he could pay for it, and nothing else mattered.

The entrance of America into the world war and the pooling of her interests with her associates, changed the whole food situation. This change concerned not only governments, but the individual. We became internationally minded in the matter of food. With the signing of the armistice there has come a still greater change. Millions of people from a score of nations are asking for food. Today every American must, as never before, look on himself as a citizen of the world—a hungry world—when deciding what shall go on his table. Before he

helps himself, he must stop and ask, "What is there to eat?" and "How many people are there to eat it?" Our common table has enlarged. All the world is sitting about it. There is barely food enough to go around. Only the selfish will use more than they need. If one uses too much, another must go without.

MISS MARTHA PATTERSON

IN MEMORIAM

Miss Martha Patterson lived a life of devotion to duty and service to humanity that was beautiful in its simplicity. In reading the following brief sketch one sees between the lines the opportunities for gradual development that resulted in the forceful personality that all among whom she worked had come to value and to love.

Miss Martha Patterson spent her childhood and early life with her parents on a farm in Central Illinois. Here she finished the eight grades of the elementary school and then at once entered the Illinois State Normal University at Normal, Ill.

After two years of study she taught for a few years in country schools with marked success. She then returned to finish her course in the normal school. A few months before she had completed the work she accepted a position as primary teacher in the public schools of Evanston, Ill. Her work here was very successful. Her gentle, sympathetic nature admirably fitted her to deal with little children. She found special pleasure in helping mediocre children to find themselves. She filled the timid ones with courage, and with confidence in themselves and the world in which they lived.

After about ten years of service in the Evanston schools she resigned her position in order to go home and care for her invalid mother. While at home she finished her course in the normal school.

In 1909 she entered Teachers' College at Columbia University, where she majored in home economics, taking the degree of B.S. in 1911.

The following fall she began her work as Head of the Department of Home Economics at The Girls' Technical Institute, Montevallo, Alabama. In the genial atmosphere of this southern school she found the

opportunity to work out some of the big, democratic ideas in which she so firmly believed.

During the meeting of the Southern Home Economics Association at Blue Ridge, N. C., the last week in August a memorial service was held for Miss Patterson, one of its most active and best beloved charter members and at the time of her death vice-president of the Association.

The meeting was presided over by Miss Nell Tappan, who told of her personal association with Miss Patterson while an extension worker under her at the Alabama Girls' Technical School. She characterized Miss Patterson as a deep thinker, a hard worker, and a wise counselor, who possessed a quiet dignity, a genial, modest womanliness, and a patient, abiding faith in others that made her charming. Miss Mary Feminear, State Home Demonstration Agent of Alabama, spoke of Miss Patterson's influential position as a leader to whom educators over the state looked for guidance in matters of home economics. She was the founder and the first president of the Alabama Home Economics Association, and was responsible for the installation of the Home Economics Department in the University of Alabama and for the appointment of a committee to formulate uniform courses of study for the high schools and the elementary schools of the state.

Miss McMahon, who was a fellow faculty member, described her as a gentle, unassuming, forceful woman who was esteemed and loved by faculty and students. Mrs. Henrietta Calvin, Miss Ada Field, and Miss Catharine Mulligan also spoke briefly of her contributions to home economics and her devotion to duty. A telegram from Miss Carrie Alberta Lyford, an intimate friend of Miss Patterson, emphasized the loveliness of her character and the loss which the cause of home economics has sustained in her death.

FOR THE HOMEMAKER

NEW YORK COMMUNITY CENTERS

KATHERINE GLOVER

New York City went community canning last summer. It went community canning on a scale that broke all records. Eleven thousand women left their individual cook stoves, tied on Hoover aprons, rolled up their sleeves, and bending over a common coöperative pot put up 31,149 quarts of fruits and vegetables.

They proved that the spirit of neighborliness, of "get together" is just as strong in women who are shut off from each other's interests by the artificial barriers of apartment walls as in those whose chrysanthemum beds run over into the cosmos of their next-door neighbor.

The crust of reserve broke down under the common desire to provision a family and save food in war times. And so bound together were many of the women through this community venture that community canning will merge into community cooking through the winter. But that is getting ahead of the story.

The canning centers of New York were first suggested by the Bureau of Conservation of the Federal Food Board and New York State Food Commission, but in their working out they enlisted the coöperation also of the Board of Education, the Food Council of Greater New York, and the Department of Public Markets.

The kitchens of sixteen public schools of the city were thrown open as canning centers and the Board of Education provided a teacher for each center, furnished janitor service and gas, and appropriated $1000 for supplies. The work was organized and superintended by the members of the Bureau of Conservation staff. The Bureau furnished funds to buy the jars at wholesale, and to provide all necessary additional equipment.

Members of the Food Council took the responsibility of securing and maintaining the attendance of the centers, keeping accounts and records, and generally served as valuable aides to the teachers in charge.

To the Department of Public Markets fell the duty of providing the materials for canning. The original plan was to centralize the buying for all the kitchens, but this was not accomplished for lack of ad quate delivery service. Arrangements were made with neighborhood dealers to furnish material at the lowest possible cost. In some cases, valiant aides of the Food Council regularly went to big market centers at four o'clock on the mornings when the canning centers were open, in order to cull the best offerings for canning.

In some of the outlying centers women brought their own materials or else purchased them themselves and brought them to the center, but only a negligible number did this. Most of them were only too glad to have the benefit of large quantity buying.

The women registered a week in advance for the canning privilege and were usually told what vegetable and fruit they might expect to can. Of course if market conditions were unfavorable for the products planned something else was substituted, but there was little dissatisfaction on this score.

The work in the centers was done in community fashion. Everybody worked together, on apportioned tasks, and at the end the out-put was divided. Only when a woman brought her own materials did she do her work individually. The actual cost of the food materials purchased was divided by the number of jars yielded, and each woman paid for the contents of her jars. If sugar was used she paid in addition one cent per quart for sweetening.

Figuring on the market price of canned goods, it was estimated at the end of the season that on the 5,000 quarts of beans put up at the centers there was a saving of from $1100 to $1700; and on the peaches and plums canned, a saving of $1400 to $2500. All the materials put up represented a saving of between $4000 and $5000, a significant object lesson in thrift.

It is not the tangible results of the work, however, which tell the real story. For every jar put up in the kitchen, several more were put up in the homes of those who attended, by women who for the most part had done little canning before or perhaps had done it in haphazard fashion. It was the educational side of the work, the lesson of working side by side at a common task with a standard to measure up to that left its mark on the women who came to the centers. The monotony of working alone, the lack of stimulus of competition or the reward of a competent judgment when the task is over, vanished in

the community center. Social barriers, too, crumbled under the democratic contacts and the eagerness of women to do well the task at hand.

One incident proves the spirit of thrift that sprang up and thrived in the centers. One group of women who had been canning left their peach peelings and their corn syrup cans in plain sight of the next group who came in to can. One of the women in the new group said: "With those peelings and the syrup scraped from the cans, I believe we could make a good jam."

Into the pot went peelings and rescued syrup. The product was something to be proud of. But when group No. 1 returned to the kitchen and saw it they had a feeling of proprietorship. Were not their peelings and their syrup used?

The decision called for the fine tact of the teacher, but it is needless to say that the judgment was in favor of the group who thought of rescuing the peelings.

The feeling of comradeship which the centers developed and the eagerness of the women to go on doing things together and to learn the best way of doing them is responsible for the merging of at least three of the centers into permanent cooking centers in three settlements in crowded districts, instead of in the schools.

Three times a week these are open for coöperative cooking, or, in reality, for a cooking lesson under one of the demonstrators of the Bureau of Conservation, differing from the ordinary lesson in that at its close Mrs. Smith will take her wonderfully evolved stew or her loaf of Victory bread home for a the family, as part of their dinner. These coöperative centers in this way will not only teach conservation cooking but will furnish a channel for the expression of the community spirit awakened in the women.

A RED CROSS CHRISTMAS

This is the age of fairy tales come true.

We have been reading—and doubting—for centuries how the magic knight flew to fight the dragon. And the names of Guynemer and Lufberry—immortal and beloved—forever prove their truth. We have read, with many a grain of salt, how the good fairy king and queen

flew over waters wide to visit friendly monarchs. But since King Albert and Queen Elizabeth went from Belgium to England through the air those who still remain skeptical of the old lore simply go on the list as blind or mediaeval. As for the invisible robe that even our children no longer credit, whole army transports have been moved under it, in plain sight of the enemy but unseen by him.

It is all so wonderful that we have pretty well lost sight of the magic qualities of a less tangible though no less real phase of American war-work—the transportation across the ocean of mercy, motherhood, the spirit of home.

That is the truest magic of all, that a spiritual thing could be carried across a sea and become a mighty power on the very scene of war.

How hopelessly, for all her bravery, the mother of old sent her son to battle. Wounds or imprisonment were only part of her fears. He had enemies in camp, as well as across the battle line, and they were improper living, physical and moral, loneliness, disease, bad food, neglect. And it was explained to the mother that that was war, and that nothing e'se could be expected.

But in this war American motherhood has gone to the front with the boy, in spite of the fact that mothers were forbidden the very continent on whose ground their sons fought, and has fed, clothed, tended, nursed, befriended each of them.

The Red Cross is grateful that it has been an instrument in this latter day magic. But it recognizes itself as merely the instrument, and knows that the magic itself had its origin in the heart and will of the American people.

The Red Cross is conducting a Christmas Roll Call, and is asking that the response to it be unanimous. It is doing this because it knows that it can go only as far as the American people send it, have mercy on as many as they bid, express the spirit they give it to express, and build its ideals as high as they aspire. If all of America is not behind the Red Cross then by so much must it fall short of the goal it desires to reach.

The magic that gave men wings and that concealed armies had for its highest purpose the slaying of the great red dragon of this modern world. The magic that made tenderness and love live on the battle field, in canteen and rest house and hospital goes even farther in its aspirations. The Red Cross wants the American people to say the word that shall not only enable it to root out every whit of needless

suffering left in the trail of the European war, but that shall bid it turn its mobilized forces against the foe at home—against the useless sickness and disease, against the remediable conditions that assail the life of the home as mercilessly as ever German hordes assailed the life of nations.

Surely nothing can compensate us for this war but that we should be able to write at the end of it "And the wicked wizard was destroyed and all the people lived happily for ever after." If, because we have put in motion huge forces to safeguard the soldiers who fought in France as soldiers were never safeguarded before, we learn to make equally mighty efforts against social distress and enemies to health here, we shall have won a double victory.

This is the Christmas season and the war is over. Dare we unite in the wish "Peace on earth, good will to men," with anything less than our whole hearts? And that means that all the magic of this magic age shall now be brought to bear on conquering misery's own self here, as well as its agents abroad. It is for this the Red Cross asks all America to enlist as its members, for only in this way will it have back of it the whole of that spirit that made the unconditional surrender of armed wrong inevitable.

A COMPARISON OF THE USE OF BAKER'S AND HOMEMADE BREAD AMONG DIFFERENT NATIONALITIES IN THE UNITED STATES

The question as to the extent to which baker's bread is used in our larger cities and whether the use of baker's bread is greater among certain nationalities than others has been for a long time a subject of interest to the United States Food Administration, and the following facts have been gathered.

An inquiry, first taken up with teachers of home economics in New York City, met with such a cordial response and resulted in such interesting data that questionnaires were immediately sent to 63 other cities. 36 cities reported; the remaining 27 received the questionnaires after the close of the school term.

In New York City 11 nationalities with a total of 25,639 families are represented in the data given; the Russian Jews, Americans, Italians,

and Germans predominating. English, Irish, Scandinavians, Polish, Austrians, Hungarians, and negroes are also included. Of the number reporting, 6 per cent bake all their bread, 54 per cent buy all their bread, and 40 per cent buy only a part of their bread. Assuming that in the latter class of families, one-half of the bread is bought and one-half is homemade, it is estimated that 26 per cent of the bread used in these families is homemade compared with 74 per cent of baker's bread. To put it in another way, if the number of families baking part of their bread is divided equally between the families that bake all their bread and those that buy all their bread, it is seen that the number of families of all nationalities who buy their bread is far greater than the number who bake their bread. Among the families of each nationality the percentage of those who buy is always over 50 per cent. With the exception of the English and Polish families the percentage runs as high as from 71 to 79. In detail Americans buy 78 per cent of their bread, English 63 per cent, Russian Jews 72 per cent, Italians 75 per cent, Scandinavians 74 per cent, Irish 79 per cent, Germans 76 per cent. Polish 59 per cent, Austrians and Hungarians 72 per cent, colored 71 per cent.

There are, however, 5 cities reporting where the greater number of families bake their bread, namely: Boston, Mass.; Duluth, Minn.; Grand Rapids, Mich.; Meriden, Conn.; and Richmond, Va. Boston buying 46 per cent, Duluth 31 per cent, Grand Rapids 38 per cent, Meriden 47 per cent, Richmond 35 per cent. There are other cities in which only slightly more than half of the families reported buy their bread. But of the total number of families for all the cities, 66 per cent buy their bread while 34 per cent bake it at home.

Of the total number of families reporting in all the cities, 37 per cent are American. The percentage of Americans using baker's bread differs only by 1 per cent from the percentage of families of all nationalities in all the cities who use baker's bread, Americans buying 66 per cent; other nationalities 65 per cent.

Among the foreign population the Russian Jews predominate and show the highest percentage of families that buy their bread, 69 per cent. Among the Germans 68 per cent buy their bread, and of the Italians and Irish 64 per cent. Among the negroes, however, the percentage of those that buy their bread is 51 against 49 that bake their bread. Of the following nationalities taken together Austrians and

Hungarians, Scandinavians, English, Polish, Bohemian, French, Armenian, and Dutch, 61 per cent bake their bread.

Of American families only 15 per cent are reported as using wholly homemade bread, while 48 per cent use baker's bread entirely, and 37 per cent use both.

It would be interesting to compare the different results if the data were gathered from country districts or small towns.

CHILDREN'S HEALTH CODE

AIR	Inside air is never so good as that of *outdoors*. Be in the open air every minute that you can.
SUNSHINE	Sunshine stops the growth of the germs of sickness. Let the sun shine freely into your home and upon your clothing.
SLEEP	Children need at least 10 hours' sleep each night. Sleep with the bedroom window open top and bottom.
BATHING	Bathe at least twice a week, better once a day.
PLAY	Play every day, winter as well as summer, and always outdoors if you can.
MILK	Milk is the very best food for growing children. Drink three or four glasses of it every day.
DRESS	Dress comfortably and lightly. Keep warm by exercise, play, and deep breathing.
WATER	Drink three or four glasses of water every day.
FOOD	Wash your hands always before eating. Eat slowly and chew all your food well.
MOUTH TEETH NOSE	Keep these clean, as they are the windows and doors for disease germs; use tooth brush and handkerchiefs often.
ALCOHOL TOBACCO	Alcohol and tobacco stop your full growth and prevent your being swift and sure.

—*Pittsburgh Public Schools, Department of Hygiene.*

EDITORIAL

Our New Program. A difficult program lies before the home economics teacher for the coming year. She must teach food conservation, not by the substitution of one article for another, but by showing how to use only the necessary amount of food. She must teach clothing thrift when the wool shortage has ceased. She must teach true economy when every advertiser is urging his goods upon a too willing public. She must teach economy of labor when the fear of unemployment is before many.

Yet in some ways her task is easy. She has an audience who have been practicing thrift; who have become accustomed to the elimination of waste, to the salvage of all material; who have learned to judge between values; who have become open minded. Those who have changed their habits of eating, of clothing, of spending in order to win the war are prepared to acquire new knowledge, and to make permanent the best of the lessons they have learned. The opportunity lies before us to exercise leadership in a way that we have never done before. If we can gain a new vision of the needs of the world, a new purpose to serve those needs, a new inspiration in fulfilling this purpose, we shall be able to make a real contribution toward the reconstruction of the world.

Home Economics Acquitted. Home economics courses and teachers have been criticized from time to time as too theoretical—too lacking in really practical knowledge—too "scientific," with the word used as a term of reproach. The work done during the influenza epidemic should certainly free them forever from such a charge. The article published in this number telling what one department did is only one out of hundreds that could have been written. Heads of Home Economics Departments not only organized and directed relief work, but with their own hands prepared food for emergency hospitals, the student army training corps, and the families and individuals who would have been helpless without their aid. Dr. Amy Daniels left her important research work in order to cook for 400. Edna White, President of the

American Home Economics Association, whose organizing ability and remarkable work in Ohio have established her leadership, took personal charge of the relief kitchen at Ohio State. These instances might be multiplied over and over again.

Physicians and nurses have gained a new respect for departments that can direct research, and that can also "go into the kitchen" for a big piece of philanthropic work.

THE QUESTION BOX

Question: Into what does milk decompose on being heated to 56°C. or over? Why is boiled milk constipating? Are both classes of so-called vitamines affected by heat? If so to what degree and at what temperature?

Answer: It has been shown by several investigators that volatile sulphides and ammonia in small amounts are liberated when milk is heated. The liberation of these substances, however, apparently does not detract from the nutritive value of the milk.

There is no adequate explanation of the cause of the constipating effects of boiled milk. It has recently been shown that the amount of citric acid in cow's milk is not materially changed during heating, so that the theory held by some, that the constipating effect of boiled milk is due to the smaller amount of citric acid, is no longer tenable; nor does it seem altogether reasonable that constipation may be the result of the finer curd formed during the digestion of boiled milk, for the curd formed during the digestion of human milk and goat's milk is equally fine.

Most investigators agree that the anti-polyneuritic vitamine (water-soluble B.) is not materially affected at the boiling temperature in neutral or acid media. Carefully controlled experiments suggest that at temperatures over 100°C. there may be some destruction, as well as in an alkaline medium at 100°C. Chick and Hume report that exposure for 40 minutes to a temperature of about 113° C. decreases the efficiency of the water-soluble vitamine about one-half as compared with the unheated control; exposure for two hours at 118°C.–124°C. reduces its power to less than one-fourth. Other investigators, on the other hand,

have been able to get normal growth in animals on foods in which the only source of the vitamine was from foods heated to 120°C. for one and one-quarter hours.

The fat-soluble vitamine, associated particularly with milk fat and green leaves, appears to be materially affected by long continued treatment at 100°C. Butter fat heated for four hours at 100°C. produced no growth in rats fed rations containing this as the sole source, whereas other rats fed a similar ration containing unheated butter fat grew normally.

Rettger: *Amer. Jour. Physiol.*, 6, 1902, 450.

Schulz: *Ztschr. f. physiol. Chem.*, 25, 1898, 16.

Hogan: *Jour. Biol. Chem.*, 30, 1917, 115.

Sommer, and Hart: *Jour. Biol. Chem.*, 35, 313.

Chick and Hume: *Proceedings of the Royal Society.* B. 1917, 90, 60.

McCollum, Simmonds, and Pitz: *Jour. Biol. Chem.*, 29, 1917, 521.

Steenbock, Boutwell, and Kent: *Jour. Biol. Chem.*, 35, 1918, 517.

Recent investigations point to the conclusion that there is also an antineuritic vitamine, found in raw vegetables and fruits, especially the citrus fruits. This appears to be materially affected by drying, boiling at high temperatures, or long continued boiling at 100°C., and by dilute alkalies.

Experimental Scurvy of the Guinea Pig in Relation to Diet. Cohen and Mendel. *Jour. Biol. Chem.*, 35, 1918, 425.

The Antiscorbutic Properties of Dessicated and Cooked Vegetables. Givens and Cohen. *Jour. Biol. Chem.*, 36, 1918, 127.

The Scurvy of Guinea Pigs. The Experimental Dietary. Hess and Unger. *Jour. Biol. Chem.*, 35, 1918, 479.

The Scurvy of Guinea Pigs. Experiments on the Effect of the Addition of Fruits and Vegetables to the Dietary. Hess and Unger. *Jour. Biol. Chem.*, 35, 1918, 487.

The Antiscorbutic Value of Cow's Milk. Chick and Hume. *Biochem. Jour.*, 12, 1918, 121.

The Differential Behavior of the Antineuritic and Antiscorbutic Factors toward Adsorbents. Harden and Zilva. *Biochem. Jour.*, 12, 1918, 93.

The Susceptibility of the Antiscorbutic Principle to Alkalinity. Harden and Zilva. *Lancet*, Sept. 7, 1918.

BOOKS AND LITERATURE

Any book or periodical mentioned in this department may be obtained through the JOURNAL OF HOME ECONOMICS if the Journal price is listed.

Food: Its Composition and Preparation. By MARY T. DOWD AND JEAN D. JAMESON. New York: John Wiley and Sons, Inc., 1918, pp. 173. $1.25.

The authors of this "text book for classes in household science" have stated their aim in writing it in the following paragraph in the preface: "In presenting this book for the consideration of the public, the authors are well aware of the present very general practice of furnishing all necessary instructions and theory to domestic science classes through the medium of notes taken by the students. Indeed it is to the conviction, resulting from long experience with the problem, of the futility and inefficiency of this practice that the book owes its origin. Much of the time thus spent by the teacher in dictating, and by the student in writing, can and ought to be saved for more profitable use."

The teacher of home economics will recognize in the book much of the material which she has used with her classes in the way described above and will welcome it in this available form. The long experience of the authors has enabled them to select wisely the material essential to the various phases of food preparation. They have organized it well, and have subdivided it in such a way as to render it very accessible for class discussion. It is divided into paragraphs numbered consecutively throughout the book, as well as into chapters dealing with the various foodstuffs and the composition and preparation of foods most representative of them.

Although the reader may be perplexed by the absence of a chapter on protein in the table of contents, inasmuch as the other foodstuffs are all represented in the chapter headings, it will readily be seen that the chapters which discuss milk, eggs, meats, poultry and game, and fish give ample consideration to this important topic.

In the sequence of chapters the authors have made no attempt to designate an order of procedure which should be followed by the teacher employing it as a text. It is presented in a logical sequence; but it will serve its best purpose in the present day teaching of foods if the teacher will rearrange the material in the order which meets the demands of her own class.

The experiments and the suggestions for laboratory practice at the close of the chapters are very helpful especially to the beginning teacher, though no attempt has been made to exhaust the possibilities.

The book is not a cook book. It contains no recipes because the authors have found that teachers of food preparation prefer to use those which they have found satisfactory in their own experience.

Perhaps the unique feature of the book is the discriminating choice of material and the clear and definite statement of it. It contains an excellent glossary. and the illustrations are well chosen and helpful.

"Food: Its Composition and its Preparation" is well adapted to the work of home economics classes in high school, either as a reference book, or as a supplementary text. It is also valuable for women's clubs and normal school classes treating the subject in its elementary phases.

CORA M. WINCHELL,
Teachers College, N. Y. City.

Food for the Sick. By SOLOMON STROUSE and MAUD A. PERRY, Philadelphia: W. B. Saunders Co., 1917, pp. 270. $1.50.

Although there are numerous books on dietetics, most of them being written especially for the physician or the nurse, this volume seems to meet a need not previously filled.

This book, intended for the physician and patient, is sufficiently clear to meet the needs of the laity and yet sufficiently comprehensive to meet the needs of the busy practitioner who needs a practical guide book for imparting instructions to patients. It is also equally valuable to the nurse and the dietitian.

The authors are well prepared to handle the subject, as both are connected with the staff of the Michael Reese Hospital, Chicago, Dr. Strouse being associate attending physician and Miss Perry the dietitian. They believe that the patient should be instructed in the principles underlying the treatment of his case, thus becoming an assistant to the doctor, rather than merely a blind follower.

Following a chapter on Food and Its Uses are treatises on various diseases which yield most readily to dietetic treatment. These include chapters on diabetes mellitus, gout, diseases of the kidney, diseases of the heart, diseases of the liver, diseases of the respiratory system, diseases of the skin, fevers, obesity, anaemia, scurvy, and goiter. The symptoms and causes, as well as the dietetic treatment are carefully outlined. Where there are differences in the treatment practiced by reputable physicians, these different methods are given with the reasons, leaving it to the physician to choose his own method in prescribing to his patient.

The book represents the 'latest word' in dietetic treatment of disease, although the chapter on Food and Its Uses does omit the latest findings in foods, i.e., vitamines. There are a few statements with which we would differ, but on the whole the book is so well written, and the subjects so well handled, that we would heartily recommend it to those interested in dietetics from a teaching or a practical standpoint.

LENNA F. COOPER.

Cookery Under Rations. By M. M. MITCHELL. New York and London: Longmans, Green & Co., 1918, pp. 65. $0.75.

This pamphlet containing 200 recipes is interesting in comparison with the conservation cook books issued in this country.

The suggestions in the introduction for economy in cookery are most of them familiar to us, though in slightly different form. A few, such as the Pot Oven made from the Irish Cooking Pot, are particularly interesting in showing what can be done when there is so serious a shortage of fuel that it must be saved in every possible way.

Directions for increasing the quantity of margarine or butter for table use by beating in milk cooked with flour, those for using bacon rind and cheese rind, and for using potato and tapioca in the "fatless pastry rules" given later in the book emphasize the fact of the shortage of fat in England.

The meat recipes are headed with "3 to 6 coupons required" or "½ coupon required." Everything is saved; even the skins from boiled potatoes are put into the soup pot. Often a recipe gives the direction to add a little oil or fat, "if it can be spared."

The recipes, like those in most English cookery books, are given by weight—why is any suggestion of this kind considered so impractical in this country?

The American teacher or housekeeper might find a number of suggestions in this little book, especially for meat-saving and vegetable dishes.

The work claims only to be a cookery book, so it is not surprising to find some misstatements when it deals with dietetic problems.

Constructive Sewing. Books II, III and IV. By MARY E. FULLER. Indianapolis: Industrial Book and Equipment Company. (The 1918 edition combines books I and II into volume I, and books III and IV into volume II. Price, 80 cents per volume.)

The first book of this series was reviewed in the March, 1917, JOURNAL.

In the three additional books Miss Fuller has given a comprehensive course in sewing

adapted to girls of high school age. The author has continued to present throughout the series much valuable subject matter beside the technical sewing. Book II contains a number of drafts of patterns for garments, rather more than the average girl in high school should take time to learn when other studies measure relatively of greater value. However, the teacher might select from those presented certain drafts of value to her particular group. Crocheting and knitting are interesting features of Book III. Book IV introduces the pupil to costume design, embroidery, and the infants' layette in addition to the usual dressmaking and millinery found in most high school text books.

Miss Fuller has succeeded in presenting the subject matter in a natural way, and one reads the books with a feeling that she has made the subject much less stereotyped and far more interesting than most books which fall in this group.

ANNA M. COOLEY,
Teachers College, N. Y. City.

Welfare and Housing. By J. E. HUTTON. New York: Longmans, Green and Company, 1918, pp. VIII + 192, pls. 8, figs. 2.

This book, based upon the practical experience of a man who for three years has been engaged in coping with the problems attendant upon the housing and feeding of many thousands of munitions workers of the Vickers factories (England), gives many points of interest to home economics workers.

In stating his purpose in publishing this book the author says, "It has been pointed out to me in various influential quarters, that a useful purpose would be served if I described in practical and categorical form the methods that are employed at the numerous hostels and canteens which have been created during the war period in connection with the Vickers factories." Nothing has hitherto been published in the way of data as to practical working details and the cost of housing, catering, and other necessities of the time. Two chapters, one on catering and one on the canteen are of especial interest at this time since so many home economics workers have undertaken the management of such places. The one on catering gives valuable hints as to detail, management, and methods of accounting. Some sample dietaries and menus are also given.

The management of canteens is dealt with in a separate chapter. Points on the structure and equipment of canteens are discussed. Some sample menus of the food served at the Vickers canteen are given.

Transactions of the Eighth Annual Meeting of the American Association for the Study and Prevention of Infant Mortality. Published by the American Association for the Study and Prevention of Infant Mortality, 1211 Cathedral Street, Baltimore, Md., 1918, pp. 327. $3.00 plus postage.

The Proceedings are divided into four parts, representing the four sessions. The papers, discussions, and reports include the following subjects: War service for the prevention of infant mortality; Red Cross child welfare work in France; Care of women during pregnancy and labor in England, France, and Germany; Obstetrics and Pediatrics—prenatal care, coöperation of obstetrician and pediatrician, care and diseases of the new-born, care of children of pre-school age; Eugenics—the effect of venereal diseases on infant mortality, venereal disease and marriage, prevention of venereal disease as a war measure; Vital and Social Statistics—birth registration, registration and reporting of still births; Progress of infant and maternal welfare work in rural communities; Public school education for the prevention of infant mortality; Red Cross Home Service Institutes; Town and Country Nursing Service; Methods of financing infant welfare activities.

"The Education of College and University Women for Giving Instruction in the Care of Infants, Children, and Mothers," by Alice Ravenhill, and "Extension Courses in Public Schools for Adult Women in the Care and Feeding of Children," by Mary H. Mayer, appear under the section on Public School Education for the Prevention of Infant Mortality.

PAMPHLETS RECEIVED

Issued by the United States Food Administration:

Universal Victory Bread. September, 1918.

Preserving Vegetables by Salting, Drying, and Storing. September, 1918.

Issued by the U. S. Department of Labor, Children's Bureau:

The Public Health Nurse. Children's Year Leaflet No. 6, Bureau Publication No. 47.

Issued by the Department of the Interior, Bureau of Education, in Coöperation with the United States Food Administration:

Lessons in Community and National Life. Series A, for the upper classes of the high school; B, for first class high school and upper grades elementary school; C, for the intermediate grades elementary school.

Issued by the United States Department of Agriculture:

Digestibility of Protein Supplied by Soy-Bean and Peanut Press-Cake Flours. Bulletin No. 717.

Standards for Milled Rice. Markets Doc. 15.

Issued by the United States Public Health Service:

Dried Milk Powder. Reprint No. 473 from the Public Health Reports.

Epidemic Influenza (Spanish Influenza). Supplement No. 33 to the Public Health Reports.

"Spanish Influenza," "Three-Day Fever," "The Flu." Supplement No. 34 to the Public Health Reports.

Malaria Control. Reprint No. 476 from the Public Health Reports.

State and Federal Coöperation in Combating the Venereal Diseases. Reprint No. 474 from the Public Health Reports.

Venereal Disease Control. Reprint No. 477 from the Public Health Reports.

Issued by the publishers listed:

Glucose for Household Use. Canada Food Board, Ottawa, August, 1918.

Food Dept. Special Bulletin, Vol. V, No. 4, 1918, Agricultural Experiment Station, Agricultural College, N. D. (Contains article on "Shall We Eat Whole Wheat Bread?" and one on "Softening Hard Waters.")

Home Curing of Pork. Bulletin No. 11, Connecticut Agricultural College Extension Service.

The Commonwealth. Vol. 5, No. 8. Massachusetts State Dept. of Health. (Contains articles on Child Care.)

Health News. Public Health Nursing number. August, 1918, Bulletin, New York State Department of Health. (September number contains articles on Saving Babies, Children's Year, etc.)

Evening Industrial Schools. Bulletin No. 18, Trade and Industrial Series No. 2. Federal Board for Vocational Education, Washington.

Vocational Recreation in Indiana, 1916. Vol. III, No. 5, Bulletin of the Extension Division, Indiana University, Bloomington.

War and Family Solidarity. Publication C. O. 54, Russell Sage Foundation, New York City. Price 5 cents.

War-Time Lessons for Schools. Vol. XIV, No. 5, The Hampton Bulletin, The Hampton Normal and Agricultural Institute, Hampton, Va.

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FOODS AND NUTRITION

The Choice between Adequate and Inadequate Diets, as Made by Rats. T. B. Osborne and L. B. Mendel, *Jour. Biol. Chem.*, 35 (1918), pp. 19–27. A further contribution bearing on the question of the reliability of natural choice in selection of a diet.

The Efficiency of Maize Protein in Adult Human Nutrition. H. C. Sherman and J. C. Winters, *Jour. Biol. Chem.*, 35 (1918), pp. 301–311. Report, including six tables, of experiments where maize was substituted for wheat in the dietary, the maize representing the main part of the food taken.

The Dietary Qualities of Barley. H. Steenbock, Hazel E. Kent, and J. C. Baker, *Jour. Biol. Chem.*, 35 (1918), pp. 61–75. Report of feeding experiments with rats to determine nutritive properties of the barley kernel—20 charts.

Free Lactic Acid in Sour Milk. L. L. Van Slyke, and J. C. Baker, *Jour. Biol. Chem.*, 35 (1918), pp. 147–178. Technical paper dealing with the degree of acidity developing in sour milk, and the state in which lactic acid exists.

Effect of Heat on the Citric Acid Content of Milk. Isolation of Citric Acid from Milk. H. H. Sommers, and E. B. Hart, *Jour. Biol. Chem.* 35 (1918), pp. 313–318. A study to determine the changes possibly caused in citric acid of milk by heating, which might have a bearing on its anti-scorbutic properties.

Fat Soluble Vitamine. H. Steenbock, P. W. Bontwell, and Hazel E. Kent, *Jour. Biol. Chem.*, 35 (1918), pp. 517–526. A study of the stability of the fat soluble vitamine.

The Scurvy of Guinea Pigs. I. Experimental Dietaries. II. Experiments on the Effect of the Addition of Fruits and Vegetables to the Dietary. A. F. Hess, and L. J. Unger, *Jour. Biol. Chem.*, 35 (1918), pp. 479–496. A study of anti-scorbutic properties of foods which have been subjected to various kinds of treatment.

Experimental Scurvy of the Guinea Pig in Relation to the Diet. B. Cohen and L. B. Mendel, *Jour. Biol .Chem.*, 35 (1918), pp. 425–453. A study to ascertain whether experimental scurvy may be produced at will in the guinea pig, and to investigate further some of the dietary features of the problem.

The Food Value of Eulachon. M. R. Daughters, *Jour. Biol. Chem.*, 35 (1918), pp. 297–299. Report of analyses of an edible fish resembling smelt which is found in marine waters along the Pacific coast.

Experiments on the Utilization of Nitrogen, Calcium, and Magnesium in Diets Containing Carrots and Spinach. H. B. McClugage, and L. B. Mendel, *Jour. Biol. Chem.*, 35 (1918), pp. 353–366. A contribution to our general knowledge of availability of nitrogen and salts through studies of two foods.

Studies in Calcium and Magnesium Metabolism. V. Further Observations on the Effect of Acid and Other Dietary Factors. M. H. Givens, *Jour. Biol. Chem.*, 35 (1918), pp. 241–251. Brief paper including three tables.

Agricultural Utilization of Frozen and Rotten Potatoes. H. Ducomet, *Compt. rend. acad. agr. France*, 3 (1918), pp. 716–18. Chem. Abst. (1918), p. 1708.

Some New and Interesting Vegetable Foods and Fruits. Charles H. LaWall, *Amer. Jour. Pharm.*, 91 (1918), pp. 169–82.

Comparison of Proximate and Mineral Analysis of Desiccated Skim Milk with Normal Cow Milk. *Journ. Indus. Eng. Chem.*, 10 (1918), pp. 295–7.

Dried Milk Powder. *Amer. Food Jour.*, Oct. 1918, p. 577.

Coconut Products. Editor. *Amer. Food Jour.*, Oct. 1918, p. 779.

The Necessity of Dairying During the War. Oscar Erf, *Amer. Food Jour.*, Oct. 1918, p. 586.

Food Prospects. Charles Ryan, *Amer. Food Jour.*, Oct. 1918, p. 585.

Coffee Shop or Coffee Room. *Hotel Monthly*, Oct. 1918, p. 67.

Revolutionizing the Dining Room. *Hotel Monthly*, Oct. 1918, p. 64.

Miscellaneous

The Estimation of Art. Raymond Wyer, *Int. Studio*, July.

Modern School of Printing. Tokyo Exhibit of Jap. Printings, *Int. Studio*, Sept.

The Influence of Art on Industry. *Decor. Furnisher*, Aug.

Industrial Education in a Small City. *Ind. Arts*, Aug.

War Time Activities in the Schools. *Ind. Arts*, Oct.

Training of Vocational Teachers. R. H. Rodgers, *Ind. Arts*, Aug.

A Suggestion for Preparing the Public to Like Art. *Good Furniture*, July.

Systems of Industrial Education. *Ind. Arts*, Aug.

The Newest Books on Decoration. *Decor. Furnisher*, Sept.

Houses from Barns. *House Beau.*, Sept.

A Combination of Arts and Crafts in Detroit. *Touchstone*, Sept.

Quaint and Simple Dutch Colonial Houses. *House Beau.*, Sept.

Building Atmosphere into the House. *House Beau.*, Sept.

Small Rooms. *House Beau.*, Sept.

Electricity in the House. *House Beau.*, Sept.

Happy Hours by the Fireplace. *House Beau.*, Sept.

Finishing the Small Apartment. *Vogue*, Sept. 15.

Picturesque Modern Roofs. *Touchstone*, Aug.

Books on Colonial Architecture. *Arch. Record*, July.

Hand Made War Rugs. *McCalls*, Sept.

Rugs for the Summer House. *Touchstone*, Aug.

Making Furniture for the Domestic Science Laboratory. A. R. Nichols, *Ind. Arts*, Oct.

Industrial Arts During the War. (Posters and Woven Bags). *Ind. Arts*, Oct.

Equipment for Bedside Occupation for Men. Lewis Haas, *Ind. Arts*, Oct.

A War Home in War Times. *House Beau.* Sept.

Copper Lanterns. Milwaukee. *Ind. Arts*, Oct.

Wood Block Prints. *Int. Studio*, Sept.

Toy Making for Santa Claus and Uncle Sam. *Ind. Arts*, Oct.

The Use of Sewing Machine Attachments. *Ind. Arts*, Oct.

A Public School Conducted Picture Show for Rural Recreation and Education. B. A. Auchinbaugh, *Educ. Admin. and Supervision*, May.

The State Normal School and the Problem of Child Health. W. S. Small, *Educ. Admin. and Supervision*, June.

Character Education. David Snedden, *Educ. Admin. and Supervision*, June.

Getting a Good Start in Sewing. Janet Cation, *Indus. Arts Mag.*, Sept.

The War Garden Movement. R. H. Wilson, *Educ. Admin. and Supervision*, June.

NEWS FROM THE FIELD

In accordance with its custom the **American Home Economics Association** will hold a meeting in Chicago in connection with the Division of Superintendence of the N. E. A. There will be two double sessions February 27 and 28. The meeting of the Council will be held on February 26. Mrs. Calvin, the chairman of the program committee of the Association, is planning that the program shall be especially related to the work of the public schools. The headquarters of the Association will be The Congress Hotel, the headquarters of the N. E. A.

Pratt Institute School of Household Science and Arts had to move half its student quarters on a few days' notice in September in order that the Household Arts building might be made into barracks for the S. A. T. C. None of the teacher training work was affected, but all the trade classes were moved. The trade dressmaking was given quarters in large adjoining rooms formerly used for architectural drawing. These rooms are divided only by partitions made of lockers, and doorways are without doors. The lighting is excellent, and the rooms are much more like trade quarters than the former rooms, which were a heritage from the discontinued high school. The inconveniences of administration are more than met by the better conditions for trade work.

Because of the heavy demand for institutional workers, Pratt Institute will start a new class in January, 1919. Classes ordinarily begin in September only. The School of Household Science and Arts like all other schools giving institutional training, finds it impossible to fill half of the positions that come to it. Members of this January class can take the three months probationary work in an institution in the summer, completing the school work in December, 1919.

The State Leaders of Home Demonstration Agents, Office of Extension Work, South, are to meet in Washington, January 2 to 7, 1919.

The School of Household Arts of the University of Cincinnati, is now reorganized to comply with the requirements for the training of vocational teachers in home economics.

With this end in view it now has a staff of instructors which include the following: Grace I. Williams, B.S., A.M. (Columbia), Assistant Professor of Foods and Nutrition; Helen Hay Halm, B.S. (Columbia), Assistant Professor of Domestic Art; Grace Gordon Hood, B.S., A.M. (Columbia), Assistant Professor of Household Arts Education; Jane Cape, B.S. (Wisconsin), Instructor in Dietetics; Leonora Neuffer, Ph.D. (University of Cincinnati), Instructor in Chemistry.

The School is looking forward to additional members to the staff who will take charge of the practice teaching and institutional management.

Work in Some Southern Colleges. At the Florida State College for Women special courses in home economics have been given ever since the declaration of war for all non-home economics students who wished to take lessons in food conservation and production. Besides this a conservation short course was given to the women of the state and representatives from 35 of the 55 counties were present. In June, 1918, a short course for country girls was held. Forty-two girls representing as many counties were present. In Septem-

ber, 1918, a course called The War Work College for Women was held at the same time as the meeting of the Home Demonstration Agents. This was remarkably successful.

A successful War College was also held at the University of Texas.

The University of Georgia organized a department of Home Economics in 1918, with Miss Mary Creswell in charge.

At the Annual Meeting of the District of Columbia Home Economics Association the following officers were unanimously reëlected: President, Miss Emma S. Jacobs; Vice-president, Mrs. H. P. Springer; Corresponding Secretary, Miss Ellen Marshall Rugg; Recording Secretary, Miss Ester Jonas; Treasurer, Miss Elizabeth Bache.

A resolution from the Housekeepers Alliance to the effect that the organizations unite in their public work for the ensuing year, in the interest of efficiency and conservation, was adopted.

The Conservation of Clothing was presented by Mrs. Charlotte White Lee, and was followed by a lively discussion from the floor. Standardization of Women's Clothing was presented in a paper by Miss Ida O'Neal.

Home Economics Club Work in Massachusetts. Massachusetts has had the past season 202 home making club members with a total enrollment of 2,980; of this number 1,506 completed all work, and 39 of the club groups were 100 per cent groups and finished all work required by all members. The club members produced 40,306 loaves of bread, and members of the bread club also made 1,890 garments. Mary McKeon, Wakefield's champion bread club girl, baked 304 loaves of bread.

In the State sewing club work these facts are interesting: The sewing club had 1,653 members; of these 1,448 belonged to the bread clubs also; 1,942 sewing club girls reported that they enlisted and put to work other girls who were not members of their group. Public demonstrations in garment making and sewing were given by 32 of the girls.

The sewing club girls of Massachusetts prepared and delivered to the American Red Cross 18,297 pieces or garments, at a otal cost of $1,427.91.

Home Demonstration Work in Oregon. Home cook-stove dryers have come into very general use in home demonstration agent counties in Oregon. In one section dainty boxes of home-dried fruits have been prepared for Christmas gifts, and the children are learning to use the dried fruits instead of candy.

In one county where 710 women enrolled in the classes and clubs organized by the home demonstration agent 233 household account books were placed because of the interest created in thrift and home management.

In another county the women are making homemade driers, homemade fireless cookers, and homemade iceless refrigerators. One woman found that an investment of 50 cents in a dish drainer and wire dishcloth for pots and pans saved her ten minutes of the time required to do the dishes after each meal, or 30 minutes a day. In a year she figured this time, if accumulated, would give two weeks, of 12 hours a day, leisure. Was the investment worth while?

Miss Louise Caldwell, a member of the Home Economics faculty of Kansas State Agricultural College, died from influenza, October 25, in New York City, while she was there on leave of absence doing graduate work at Columbia University. Mrs. Van Zile writes: "We not only feel keenly our personal loss but also the loss to the Home Economics movement of one who promised to be a distinctive leader. Miss Caldwell was a woman full of life, energy, and determination, was ambitious and of unusual natural ability, and her work on our faculty was a distinct contribution to home economics. She possessed those rare qualities of personality and character as to endear her to all those with whom she was associated."

INDEX TO VOLUME X

A

Accounting: see Budget

Accounts, College students', 457

ADAMS, LUCILLE WHEELER. Jelly making with sugar savers, 503

ADAMS, MAUDE GREGORY. Home project work in vocational home economics in secondary schools, 358

ADDAMS, JANE. The world's food supply and woman's obligation, 389

Alabama Home Economics Association,* 341

ALDIS, MARY. Housekeeping in wartime, 73

ALLEN, BERNICE. Problems in cake making, 542

ALLEN, EDITH. A comparison between canning and drying, 223

American Association for the Study and Prevention of Infant Mortality,* 145; Review of transactions, 569

American Association of Agricultural Colleges and Experiment Stations,* 532

American Dietetic Association,* 47, 531

American Home Economics Association Meetings: 47*, 95* 187,* 194,* 241,* 380, 435,* 573*

American Red Cross: Editorial, 187; Food of prisoners of war, 510; News, 94 and 244. *See also* Red Cross

American textiles, 533

Americanism the spirit of costume design, 207

Analytical study of some varieties of white goods, 33

Annual meeting (A. H. E. A.) at Atlantic City,* 241

Annual session of the Alabama Home Economics Association,* 194

Announcements: Ellen H. Richards fellowship, 188; Southern Home Economics Association meeting, 334; Thrift by Household Accounting, 38

Another method of sterilizing glassware, 379

ARNOLD, SARAH LOUISE. Grace at table, frontispiece, April; Learning the lesson of food conservation, 255

Association of Prison Reform,* 94

ATWATER, HELEN W. The woman's committee survey of agencies for the sale of cooked food, 419

B

Backing up the boy in khaki,* 146

Belgium, The food of, 293

Bibliography of home economics, 45, 89, 142, 191, 239, 289, 339, 385, 433, 481, 529, 571

BIERY, ROSA. Teaching food values in the elementary schools, 353

BIGELOW, ZELLA E. What one department did, 552

BISHOP, ELIZABETH L., Increase in living costs, 57

BLOOD, ALICE F. Teaching food values, 302

BLUNT, KATHARINE. Vegetable oils and their use in cooking, 23

Book Reviews:

American Women and the World War, 528

Baby's food, The, 139

Basic quantity food tables, 43

Belgian cook book, The, 336

Book of corn cookery, The, 45

Chemistry of food and nutrition, 383

Child's food garden, The, 237

Constructive sewing, 568

* Those starred are news notes

Book Reviews—*Continued:*
Cookery under rations, 568
Cooking and sewing outline, 286
Coöperation the hope of the consumer, 477
Corn cook book, The, 286
Cost of food, The, 336
Department store merchandise manuals, 236
Everyday foods in war time, 383
Everywoman's canning book, 429
Food and the war, 527
Food demonstration work for congested city neighborhoods, 139
Food for the sick, 568
Food guide for war service at home, 527
Food in war time, 285
Food: its composition and preparation, 567
Food poisoning, 43
Food primer for the home, 429
Food problem, The, 139
Food problems, 235
Health first, 384
High school cookery book, 430
History of ornament, ancient and medieval, 189
Home garden, The, 237
Home nurse's handbook of practical nursing, 140
Household budget, The, 235
Household management, 189
How to make the garden pay, 237
Industrial arithmetic for girls, 479
Kitchenette cookery, 43
Lessons in food values and economical menus, 43
Manual of household accounts, 190
Meals for 5 on $6 a week, 43
Mechanics of the household, 335
Modern milk problem, The, 87
Our schools in war time and after, 384
Practical cook book, 430
School and home gardening, 237
Small family cook book, 430
Starvation treatment of diabetes, 478
Story of the Sargent Industrial School at Beacon, N. Y., The, 88
Successful canning and preserving, 285
Thrift clothing, 430
Transactions of the eighth annual meeting of the A. A. S. P. I. M., 569
War economy in food, 45
War food, 44
War-time breads and cakes, 336
Welfare and housing, 569
Wheatless and meatless days, 286
Wheatless and meatless menus and recipes, 286
World's food, The, 87
BOWER, SARAH ELIZABETH. The patriotic potato, 314
BRADLEY, ALICE. Modifying your cook book to meet present conditions, 219
Bread: Comparison of use of homemade and baker's, 561. *See also* Cookery
Bread card from France, 259
Budget: College students' accounts, 457; Conservation and the food budget, 363; Teaching the budget to children, 495; Teaching the clothing budget, 437. *See also* Thrift
BURT, EMILY ROSE. The friends of Captain Sugar, 408

C

Cafeteria: The Food Administration, 411; Hostess house cafeteria, 463
CAJORI, FLORIAN. Utilization of some nuts as food, 304
Cake making, Problems in, 542
CALDWELL, LOUISE,* 574
Canadian University course in household science,* 387
Canning and Preserving: Comparison between canning and drying, 223; Consideration of the canning problem, 323; Jelly making with sugar savers, 503; Kitchen tests for pectin in jelly making, 520; Spoilage (Question Box) 86; What temperature is reached inside the jar during home canning, 548; Wild crabapple for jelly making, 471
CATION, JANET G. Teaching the clothing budget, 437
Changing a peace time ration for wartime, 371

CHARTERS, W. W. The project in home economics teaching, 114

Cheap homemade soy bean meal for diabetics, 64

Chicago food conservation bureau, 518

Children's health code, 563

Christmas, A Red Cross, 559

Christmas, 1918, frontispiece, December

Cleanliness: Five filthy fingers, 468

Clothing: Americanism the spirit of costume design, 207; Clothing situation, 401; Editorial, 524; Standardized dress, 426; Teaching the clothing budget, 437; What we shall wear this year and next, 125. *See also* Textiles

Clothing situation, 401

Clubs: Conservation and club work, 120; Gas masque, 469; Marketing clubs of Pittsburgh, 27; World's food supply and woman's obligation, 389

College (methods and cost of living): A dietary study at Vassar, 97; College students' accounts, 457

College degree in home demonstration work,* 532

College students' accounts, 457

Comment and Discussion: Alternating sewing and cooking, 525; Coöperative venture, 234; Dietary study at Vassar, 474; Psychology of "do and don't," 137; Scope of home economics, 40

Common table, The, 554

Community centers, New York, 557

Community Work: *See* Social work

Comparison between canning and drying, 223

Comparison of the use of baker's and homemade bread among different nationalities in the United States, 561

Connecticut Home Economics Association,* 193

Conservation: Chicago food conservation bureau, 518; Conservation and club work, 120; Conservation and the food budget, 363; Cornmeal gingerbread, 32; Do you know cornmeal, 30; Economy sugar bowl, 357; Food card, 21; Food conservation drive in a high school, 71; Food control 245; Food of Belgium, 293; Help the housewife, 129; Housekeeping in war time, 73; Learning the lesson of food conservation, 255; Modifying your cook book to meet present conditions, 219; My friend in France tells me, 268; New ration (editorial), 135; Ourselves or the Allies, 260; Present food situation, 513; Salvaging food containers, 377; What retail merchants are doing for food conservation, 264; Wheat bread and the world's food, 515; Wheat flour allowance, 183; Wheatless breads and cakes, 185; Work of the library in food conservation, 266; World's food supply and woman's obligation, 389. *See also* Canning; Emergency; Food Administration; Substitutes

Conservation and the food budget, 363

Conservation and club work, 120

Conservation is imperative, frontispiece, November

Conservation of tin, 466

Conserving woman power in war time, 171

Consideration of the canning problem, 323

Cooked food service, 419

Cookery: Fat absorbtion in frying doughnuts, 18; Modifying your cook book to meet present conditions, 219; Nutritious vegetable soups, 80; Problems in cake making, 542; Red Man's uses of Indian corn, 444; Some experiments with wheat substitutes, 348; Study of yeast bread with substitute flours, 272; Vegetable oils and their use in cooking, 23; Wheatless cake and shortcake, 282

COOMBS, HELEN. Increase in living costs, 57

Coöperation: A coöperative venture, 234; How coöperation is being applied in a far western university, 460; Marketing clubs of Pittsburgh, 27; What retail merchants are doing for food conservation, 264; Survey of agencies for sale of cooked food, 419. *See also* Social Work

Corn: Meaning of word, 522; Red Man's uses of, 444

Cornmeal (Uses of), 30, 32, 444
Cornmeal gingerbread, 32
Cost of Living: Housekeeping in war time, 73; Increase in living costs, 57; Study of cost of living in working class families in Roxbury, Mass., 147
Course for health instructors,* 387
Courses in food conservation,* 95
Crabapple: *See* Canning and Preserving
CRAWFORD, M. D. C. American textiles, 533

D

DENTON, MINNA. How much food does it take to supply us with the calcium we need, 168; Kitchen tests for pectin in jelly making, 520; What temperature is reached inside the jar during home canning, 548
Diet: Cheap homemade soy bean meal for diabetics, 64; Dietary study at Vassar, 97; How much food does it take to supply the calcium we need, 168; Some essentials to a safe diet, 49; Work of dietitian in Canadian military hospitals, 108. *See also* Digestion; Food Values
Dietary study at Vassar College, 97; *See also* Comment and Discussion, 474
Dietitian service at home, 485
Digestion: Utilization of some nuts as food, 304. *See also* Diet
Dinner guests, frontispiece, August
District of Columbia Home Economics Association,* 574
Do you know cornmeal, 30
Doing my level best, 133
Domestic Art: *See* Clothing; Textiles
Domestic Science organizer for New Zealand,* 47
Domestic service, For better, 424
Drying: *See* Canning and Preserving
DU BOSE, CLARENCE. Doing my level best, 133

E

Economical buying, 177
Economy sugar bowl, 357
Editorial: American Home Economics Association, reaffirmed policy, 380; Barrel on the corner, 473; Buying, 50–50, 136; Children's food and the food administration, 283; Day's food in war and peace, The, 334; Emergency commission in education, 523; Home economics in emergency work, 564; Home service work of the Red Cross, 187; Need for nurses, 473; New ration, 135; Our new program, 564; Protest (dress), 524; Science and experience, 39; True way to stop use of food stuffs in brewing, 283; United States child labor law unconstitutional, 380; Voluntary ration, 85; What is wheat, 284; Why not join (A. H. E. A.), 418
Education: *See* Study and Teaching
Educational war service campaign,* 436
Eleventh annual meeting of the American Home Economics Association,* 435
Ellen H. Richards Fellowship Fund, *342, 188
Emergency Work: Editorial, 523, 564; What one department did, 552. *See also* Conservation; Food Administration
Experiment in teaching citizenship, 311
Extension Work: *See* Rural Work; Social Work

F

Farm home study tours,* 388
Farmers' week at Ohio State University,* 193
FARNUM, MARTHA. An analytical study of some varieties of white goods, 33
Fat absorption in frying doughnuts, 18
Fats: Fat absorption in frying doughnuts, 18; Fat and calories, 471; Vegetable oils and their use in cooking, 23
Federal Board for Vocational Education,* 91
FITZGERALD, CLAUDIA. The Food Administration cafeteria, 411
Five filthy fingers, 468
Flour, mixed, 469

Food Administration, The United States: Cafeteria, 411; Courses in food conservation,* 95; Do you know cornmeal, 30; Food card, 21; Frontispiece, March; How you can help, frontispiece September; Office of Home Economics and the United States Food Administration, 280; Present food situation, 513; Ration card, 85; Wheat flour allowance, 183; Wheatless breads and cakes, 185

Food Administration cafeteria, 411

Food conservation drive in a high school, 71

Food conservation on street corners,* 532

Food control, 245

Food in France during the last days of the war, 516

Food of Belgium, 293

Food of prisoners of war, 510

Food shop of Women's Educational and Industrial Union, Boston,* 292

Food situation, 513

Food Values: Calcium in food, 168; Changing a peace time ration for war time, 371; Economical buying, 177; Fat and calories, 471; Points in selecting meals, 374; Quick method of calculating food values, 212; Shall we buy milk or cream, 379; Teaching food values, 295, 302, 353; What to teach the public regarding food values, 195. *See also* Cookery; Diet

For better domestic service, 424

France: Food in, during the last days of the war, 516; My friend in, tells me, 268; Short rations in France and Italy, 554

Friends of Captain Sugar, 408

Fuel: Comparative costs, 162

G

Gas masque, 469

GENUNG, ELIZABETH F. A consideration of the canning problem, 323

GLOVER, KATHERINE. New York Community centers, 557

GOODSPEED, HELEN C. Teaching the budget to children, 495

Grace at table, frontispiece, April

GRAHAM, HELEN. Home economics teacher in rural schools, 157

GRAVES, LULU. Dietitian service at home, 485

GRAY, CORA. Some experiments with wheat substitutes, 348

GRAY, GEORGIA. The Red Cross and the high school sewing course, 414

GRAY, GRETA. A lesson in economical buying, 177

GRIGGS, MARY A. A dietary study at Vassar College, 97

GROSS, IRMA. A food conservation drive in a high school, 71

GUERRIER, EDITH. The work of the library in food conservation, 266

H

HARCUM, CORNELIA. Menus of the ancient Roman world, 343

Health code, Children's, 563

Help the housewife, 129

HEN-TOH, WYANDOT. Mon-dah-min and the Red Man's world old uses of Indian corn as food, 444

Home demonstration assistants,* 92

Home demonstration work in Oregon,* 574

Home Economics: Comment and Discussion, 40. *See also* Study and Teaching

Home Economics Association of Greater New York,* 93

Home economics club work in Massachusetts,* 574

Home economics in public schools under war conditions, 369

Home economics teacher in the rural school, 157

Home grown foods, 515

Homemade: Homemade and baker's bread, The use of, 561; Soy bean meal, 64

Home project work in vocational home economics in secondary schools, 358

Home service,* 244

Honorary members,* 483

HOOVER, HERBERT. Food control, 245; Letters to colleges and college women, frontispiece, March
HOPKINS, MARION E. The hostess houes cafeteria, 463
HOPKINS, MARY ALDEN. Conserving woman power in war time, 171
Hostess house cafeteria, 463
Household Management: Household thrift, 181; Lesson in economical buying, 177; Time required for housework in a family of 5 with small children, 226
Household physics and practice cottage work, 162
Household thrift, 181
Housekeeping in war time, 73
How can I save sugar on a two-pound ration, 428
How coöperation is being applied in a far western university, 460
How much food does it take to supply us with the calcium we need, 168
How you can help, frontispiece, September
HUNT, CAROLINE L. Changing a peace time ration for war time, 371; A quick method of calculating food values, 212

I

Increase in living costs, 57
Indian squaws organize to study foods,* 388
Industrial Education: *See* Study and Teaching
Institution Management: Dietary study at Vassar, 97; Dietitian service at home, 487; School lunch work in Ohio, 490; Work of dietitian in Canadian military hospitals, 108
International Scientific Committee, The, 462
Iowa Home Economics Association,* 91

J

Jelly. *See* Canning and Preserving
Jelly making with sugar savers, 503
JOHNSON, ALICE A. Home economics in the public schools under war conditions, 369
JOHNSON, ALMA Y. The marketing clubs of Pittsburgh, 27

K

KAUFFMAN, TREVA E. School lunch work in Ohio, 490
KELLOGG, VERNON. The food of Belgium, 293
KINNE, HELEN, The professional services of, 174
Kitchen tests for pectin in jelly making, 520
KRUEGER, JEAN. Conservation and the food budget, 363

L

LANGWORTHY, C. F. Teaching food values, 295
Learning the lesson of food conservation, 255
Lesson in economical buying, 177
Library, The work of, in food conservation, 266
LOFLIN, ETHEL. Jelly making with sugar savers, 503

M

MCCOLLUM, E. V. Some essentials to a safe diet, 49; What to teach the public concerning food values, 195
MCKEE, MARY C. Fat absorption in frying doughnuts, 18
MCKINNON, JEAN G. The Office of Home Economics and the United States Food Administration, 280
MACLEOD, ANNIE LOUISE. A dietary study of Vassar College, 97
MCLEOD, SARA. College students' accounts, 457
MCTAVISH, RUBY. A study of ginghams, 321
Marketing clubs of Pittsburgh, 27
MARTINDALE, KATHERINE. The wild crab-apple for jelly making, 471
Meaning of the word corn, 522
Menus: Housekeeping in war time, 73; Nutritious vegetable soups, 80; Points in selecting meals, 374

Menus of the ancient Roman world, 343
Merchants, What retail, are doing for food conservation, 264
MERRILL, SARA. What retail merchants are doing for food conservation, 264
Milk. Shall we buy milk or cream, 379
MILLER, ELIZABETH. A cheap homemade soy bean meal for diabetics, 64; Problems in cake making, 542
MILLER, ETHELWYN. Americanism the spirit of costume design, 207
Mineral matter: How much food does it take to supply us with the calcium we need, 168
Mixed flour, 469
Modifying your cook book to meet the present conditions, 219
Mon-dah-min and the Red Man's uses of Indian corn, 444
MUNROE, MRS. CHARLES A. The Chicago food conservation bureau, 518
My friend in France tells me, 268

N

National Conference of Social Work,* 291
National Education Association,* 243
National Society for Vocational Education,* 341
Need for nurses,* 243
New England Home Economics Association,* 342
New food card, 21
New York Association of Dietitians,* 243
New York community centers, 557
News (Brief Notes): 95, 192, 244, 342, 388, 483. (Other news items are starred throughout the index.)
News from the Food Administration, *145, 291
Nutrition: *See* Diet; Digestion; Food Values
Nutritious vegetable soups, 80
Nuts, Utilization of, as food, 304

O

Office of Home Economics and the United States Food Administration, 280
Officers, A. H. E. A.,* 194
Ourselves or the Allies, 260

P

Paper textiles, 451
Patriotic potato, The, 314
Patriotism and food, 123
PATTERSON, MARTHA. In Memoriam, 555
Pectin, Tests for, 520
PERRY, LORINDA. Some recent magazine articles on the standard of living, 9
Physics, Household, and practice cottage work, 162
Pinto bean, 72
Points in selecting meals, 374
Pop corn as a money raiser,* 244
Potato, The patriotic, 314
Practice cottage work and household physics, 162
Pratt Institute of Household Science and Arts,* 573
Present food situation, 513
Preserving: *See* Canning
Preserving time, 417
Price of sugar, 517
Prisoners of war, The food of, 510
Problems in cake making, 542
Professional services of Helen Kinne, 174
Project in home economics teaching, 114
Project work: *See* Study and Teaching
Public health, frontispiece, October
Publications of the United States Food Administration (listed) 287

Q

Question Box, The: Alternating sewing and cooking, 233 (Answer in Comment and Discussion, 525); Barley flours, 232; Effect on vitamines of boiling milk, 565; "Flat sour," 86; Slides for textiles, 232
Quick method of calculating food values, 212
Quotations (not otherwise listed): 26, 29, 72, 119, 124, 182, 230, 263, 303, 368, 547

R

Ration: Changing a peace time, for war time, 371; International Scientific Commission, 462; Short rations in France and Italy, 554; Voluntary (editorial) 85

Red Cross and the high school sewing course, 414

Red Cross Christmas, 559

Red Cross: See American Red Cross

Red Man's uses of Indian corn, 444

RICHARDS: See Ellen H. Richards

RICHARDSON, MABEL KINGSLEY. Dinner guests, frontispiece, August

ROBERTS, LYDIA J. A cheap home made soy bean meal for diabetics, 64

ROLFE, AMY L. What we shall wear this year and next, 125

Roman menus, 343

RONZONE, ETHEL. Standardized dress, 426

ROSE, FLORA. Points in selecting meals, 374

ROTHGEB, JESSIE B. How coöperation is being applied in a far western university, 460

ROUTH, ELSIE M. An experiment in teaching citizenship, 311

Rural Work: Home economics teacher in the rural schools, 157; School lunch work in Ohio, 490

RUSSELL, LILLIAN. Help the housewife, 129

RYLEY, VIOLET M. The work of the dietitian in the Canadian military hospitals, 108

S

Salvaging food containers, 377

Saving in hotels,* 387

School: *See* Study and Teaching

School of Household Arts, University of Cincinnati,* 573

School lunch work in Ohio, 490

Serving meals without wheat, 131

Sewing: Red Cross and the high school sewing course, 414. *See also* Clothing; Textiles

Shall we buy milk or cream, 379

SHORT, JENOISE. A comparison between canning and drying, 223

Short rations in France and Italy, 554

Social Work: Chicago food conservation bureau, 518; Experiment in teaching citizenship, 311; Hostess house cafeteria, 463; New York community centers, 557; Study of cost of living in working class families, 147. *See also* American Red Cross; Rural Work; Study and Teaching

Some essentials to a safe diet, 49

Some experiments with wheat substitutes, 348

Some recent magazine articles on the standard of living, 9

Soups, Nutritious vegetable, 80

South Carolina federation of colored women's clubs,* 387

Soy beans, 64

SPRAGUE, ELIZABETH. Nutritious vegetable soups, 80; A study of yeast bread with substitute flours, 272

Standardization: Some recent magazine articles on the standard of living, 9; Standardized dress, 426

Standardized dress, 426

State leaders, South,* 573

State Normal School, Harrisonburg, Va.,* 92, 342

STEELE, B. L. Household physics and practice cottage work, 162

Sterilizing glassware, 379

STITES, SARA HENRY. A study of the cost of living in working class families in Roxbury, Mass., 147

STODDARD, C. F. Household thrift, 181

STORMS, LILLIAN B. Paper textiles, 451

Stout Institute,* 484

Student Contributions: 33, 321

Study and Teaching: Comment and Discussion, 40; Experiment in teaching citizenship, 311; Home economics teacher in the rural school, 157; Home economics in public schools under war conditions, 369; Home project work in vocational home economics in second-

ary schools, 358; Patriotic potato, 314; Project in home economics teaching, 114; Red Cross and the high school sewing course, 414; School lunch work in Ohio, 490; Teaching food values, 195, 295, 302, 353; Teaching the budget to children, 495; Teaching the clothing budget, 437

Study of ginghams, 321

Study of the cost of living of working class families in Roxbury, Mass., 147

Study of yeast bread with substitute flours, 272

Substitutes: Changing a peace time ration for war time, 371; Friends of Captain Sugar, 408; Jelly making with sugar savers, 503; Mixed flour, 469; Serving meals without wheat, 131; Some experiments in wheat substitutes, 348; Study of yeast breads with substitute flours, 272; Table of measures, 472; Vegetable oils and their use in cooking, 23; Wheatless cake and short cake, 282; Wheatless loaf, 378. *See also* Conservation

Sugar: The friends of Captain, 408; How can I save on a two-pound ration, 428; The price of, 517

T

Table of measures, 472

TAYLOR, ALONZO E. Ourselves or the Allies, 260; Wheat needs of the world, 1

Teachers of domestic science for China,* 292

Teaching food values, 195, 295, 302, 353

Teaching food values in the elementary schools, 353

Teaching the budget to children, 495

Teaching the clothing budget, 437

Teaching: *See* Study and Teaching

Temperature inside the jar during home canning, 548

Textiles: An analytical study of some varieties of white goods, 33; American textiles, 533; Paper textiles, 451; Study of ginghams, 321. *See also* Clothing

Thrift: Economical buying, 177; Household Thrift, 181. *See also* Budget

Time required for housework in a family of 5 with small children, 226

Tin, conservation of, 466

U

Until the next harvest, 185

Utah extension field,* 92

Utilization of some nuts as food, 304

V

Vegetable oils and their use in cooking, 23

Vitamines: *See* Food Values; Question Box

Vocational Education: *See* Study and Teaching

Vocational home economics in secondary schools, 358

Volunteer war garden army, frontispiece, May

W

War kitchen for southern agents,* 387

War program,* 145

Waste: *See* Conservation

Weights and Measures: Comparison of flours, 132, 186; Comparison of sweeteners, 472

WELLER, MARION. The clothing situation, 401

What one department did, 552

What retail merchants are doing for food conservation, 264

What temperature is reached inside the jar during home canning, 548

What to teach the public regarding food values, 195

What we shall wear this year and next, 125

Wheat bread and the world's food, 515

Wheat flour allowance, 183

Wheat needs of the world, 1

Wheatless cake and shortcake, 282

Wheatless loaf, 378

WHEELER, LUCILE. Conservation and club work, 120

Why eat food, 370

WICKER, KATHERINE. Salvaging food containers, 377
WILBUR, RAY LYMAN. Program of food saving, frontispiece, June
Wild crabapple for jelly making, 471
WINSLOW, C.-E. A. Public health, frontispiece, October
Woman's committee survey of agencies for the sale of cooked food, 419
Woman's obligation and the world's food supply, 389
WOODBURY, MARION. Time required for housework in a family of 5 with small children, 226
Work in southern colleges,* 573
Work of the dietitian in the Canadian military hospitals, 108
Work of the library in food conservation, 266
World's food supply and woman's obligation, 389